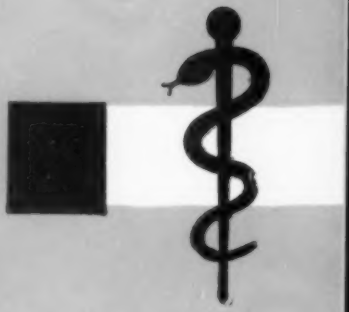
Medical TIMES

THE JOURNAL OF GENERAL PRACTICE

Fat Intolerance in Infancy
Psychiatry in General Practice
Poliomyelitis
Sound Clinical Judgment
Child Psychiatry
Seminal Vesiculism
Low Back Pain
Child Psychiatry in General Practice (Refresher)
The Heart and the Law
Therapeutics
Case Report
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Tax Exemption Feature of Certain Income Bonds
Northern Pacific Railway
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Federal Reserve Board Credit Policy:
Tight, But Not Too Tight
Contents Pages 5a, 7a, 9a



VOL. 84 JULY 1956 NO. 7



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FIRST

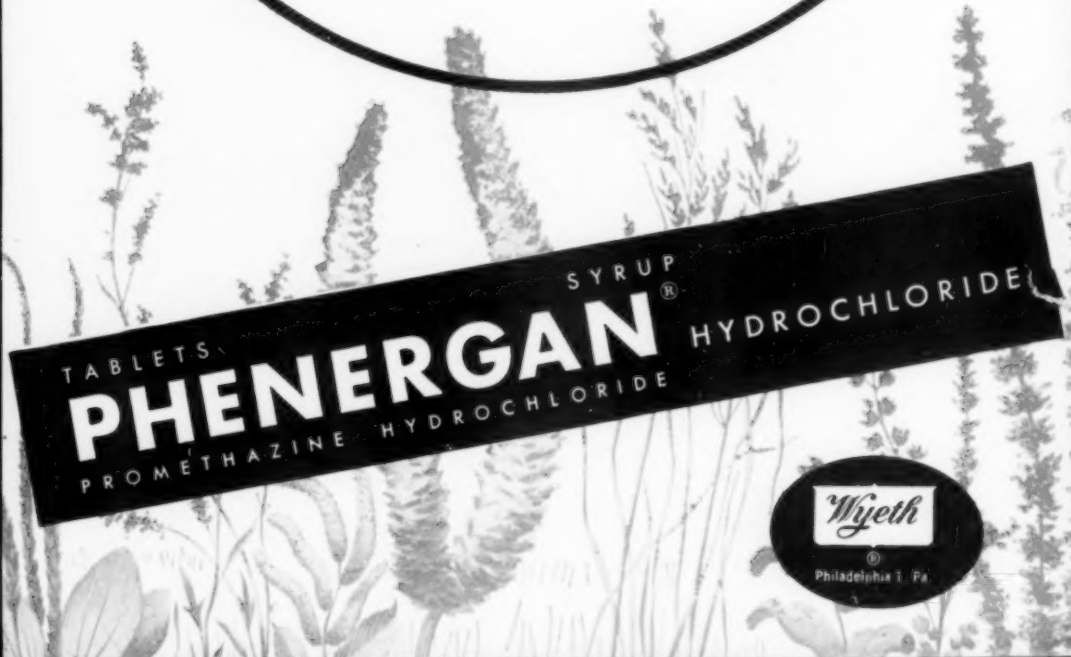
IN HAY-FEVER RELIEF!

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1. Silbert, N.E.: Ann. Allergy **10**:328 (May-June) 1952

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BPA

Opinions expressed in articles are those of the authors and do not necessarily reflect the opinion of the editors or the Journal.

Medical Times is published monthly by Romaine Pierson Publishers, Inc., with publication offices at 34 North Crystal Street, East Stroudsburg, Pa. Executive, advertising and editorial offices at 1447 Northern Boulevard, Manhasset, L. I., N. Y. Accepted as controlled circulation publication at East Stroudsburg, Pa. Postmaster: If undelivered, please send form 3579 to Medical Times, 1447 Northern Boulevard, Manhasset, Long Island, New York.



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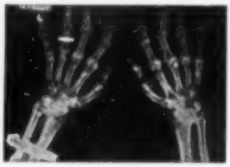
Exploit fully the use of salicylates in arthritis—give steroids in minimal doses—combine salicylates with corticosteroids for additive antiarthritic effect—this is the program Spies[1] advocates in a recent article in the Journal of the American Medical Association.

Treatment of rheumatoid arthritis demands a "highly individualized program," Spies[1] writes. The additive action of salicylates permits use of smaller amounts of hormones, thus lessening or eliminating their well-known side effects. "A proper mixture of salicylates and corticosteroids produces an effective antirheumatic agent in many cases."[1]

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BUFFERIN contains no sodium, a marked advantage when cardiorenal complications make a salt-restricted diet necessary.

Each BUFFERIN tablet contains 5 grains of acetylsalicylic acid and the antacids magnesium carbonate and aluminum glycinate.



REFERENCES:
1. J.A.M.A. 159: 645 (Oct. 15) 1955.
2. J.A.M.A. 158: 366 (June 4) 1955.

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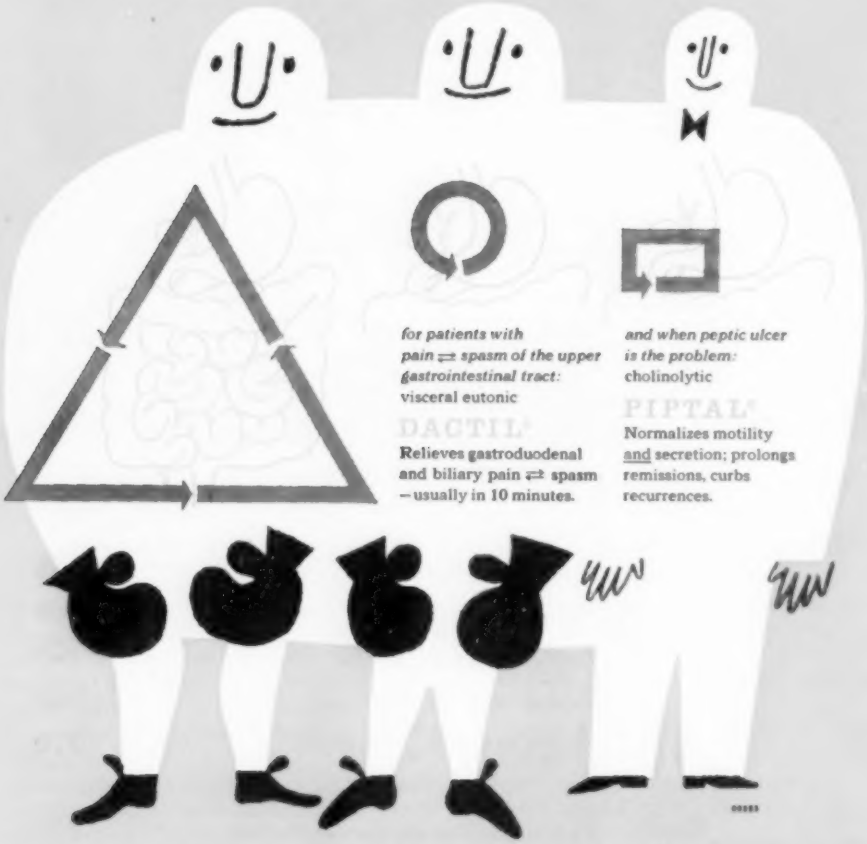
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LAKESIDE

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CREAM • STERILE JELLY • COMPOUND LOTION (calamine, zinc oxide, menthol added)

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(b) relative freedom from the toxic or allergic reactions that may accompany some of these other agents.

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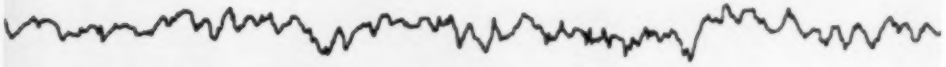
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Because barbiturates and other sedatives depress the cerebral cortex, the sedation achieved is accompanied by a reduction in mental alertness.

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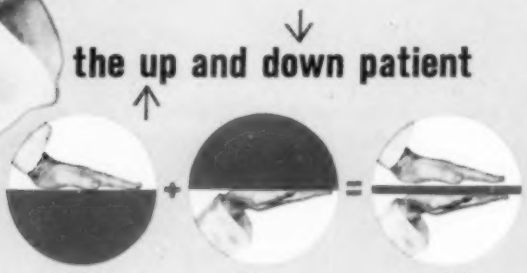
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the up and down patient



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Ritalin *psychomotor stimulant*

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To induce emotional equilibrium in those who swing from anxiety to depression, Serpatilin combines the relaxing, tranquilizing action of Serpasil with the mild mood-lifting effect of the new cortical stimulant, Ritalin. In recent months, numerous clinical studies have indicated the value of combining these agents for the treatment of various disorders marked by tension, nervousness, anxiety, apathy, irritability and depression. Arnoff,[1] in a study of 51 patients, found the combination of definite value in a variety of complaints, noting no effect on blood pressure or heart rate. Lazarte and Petersen[2] also found Serpatilin effective in counteracting the side effects of reserpine and chlorpromazine. They reported: "The stimulating effect of Ritalin seemed complementary to the action of reserpine . . . in that it brought forth a better quality of increased psychomotor activity."

1. Arnoff, B.: Personal communication. 2. Lazarte, J. A., and Petersen, M. C.: Personal communication.

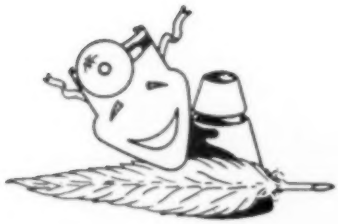
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Dosage: 1 tablet b.i.d. or t.i.d., adjusted to the individual.

Serpatilin T.M.

(reserpine and methyl-phenidylacetate hydrochloride CIBA)

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SUMMIT, N. J.



Off the Record . . .

True Stories From Our Readers

Each incident described has been contributed by one of our readers. Contributions describing actual and unusual happenings in your practice are welcome. For obvious reasons only your initials will be published. An imported German apothecary jar will be sent in appreciation for each accepted contribution.

Suspicion

One of our colleagues was examining a rather jittery maiden school teacher, his nurse assisting. The speculum with which he accomplished the final part of his vaginal was still warm from the sterilizer and he thrust it in its proper place rather suddenly. The patient reared upon the table and exclaimed accusingly, "Doctor, what did you put in there?" The examiner explains that the embarrassment he suffered at noting his nurse's convulsive efforts to hide her amusement was somewhat tempered by a feeling of pride. "You see," he explained, "I was standing clear back against the wall of the room."

T.E.K., M.D.
Boone, Iowa

You Never Know!

This happened on the Venereal Disease Ward, Fort Benning, Georgia. A Private is telling the Ward Officer of discovering he had a urethral discharge.

"Cap'n, it was this way. I got up this morning, feeling pretty good. I went down to the latrine, and started to, and just couldn't. Looking down, I said to myself, "Now what have we here?"

J. B., M.D.
Gadsden, Alabama

Must've Missed a Class

Several years ago I treated a patient at home for an undetermined acute pulmonary condition accompanied by chest pain, fever and hemoptysis. The nurse on the case, a recent graduate of our hospital, took pains to show me always how efficient she was and how up-to-date. I asked her to procure a morning specimen of sputum, which I took to the hospital for testing, and received a report the next day. On a subsequent visit the nurse, still very much

—Concluded on page 19a

DRAMAMINE® IN VERTIGO

Notes on the Diagnosis and Management of "Dizziness"

II. False Dizziness



1. Romberg's Sign

The patient stands with his feet together and his eyes closed. Inability to maintain equilibrium may indicate locomotor ataxia or sclerosis of the posterior columns of the spinal cord (tabes dorsalis).

False dizziness is a sensation of sinking or lightheadedness which is often of psychogenic origin. It should be distinguished from true "dizziness" or vertigo[1] in which there is a definite whirling, moving sensation.

Unsteadiness, lightheadedness and similar manifestations of false dizziness[2] may be psychogenic or the result of arteriosclerosis, hypoglycemia, drug sensitivity and general metabolic disturbances such as anemia and malnutrition. Hypertension is often the cause of these symptoms.

Psychogenic dizziness probably originates at the highest brain centers. It may be described as a sense of uncertainty with occasional mild lurching but not to the point of falling. In these patients there is no nausea, no disturbance of vestibular pathways and otologic and neurologic examinations are negative. The sensation is unaffected by head movement. Symptoms usually disappear[3] with rest.

Dramamine® has been found highly effective in many of the conditions already mentioned. Maintenance therapy with Dramamine will often keep the patient from becoming incapacitated by his condition.

Dramamine is also a standard for the management of motion



2. Inability to Walk a Straight Line

sickness and is useful for relief of the nausea and vomiting of fenestration procedures and radiation sickness and for relief of "true dizziness" of other disorders.

Dramamine (brand of dimenhydrinate) is supplied in tablets (50 mg.) and liquid (12.5 mg. in each 4 cc.). G. D. Searle & Co. Research in the Service of Medicine.

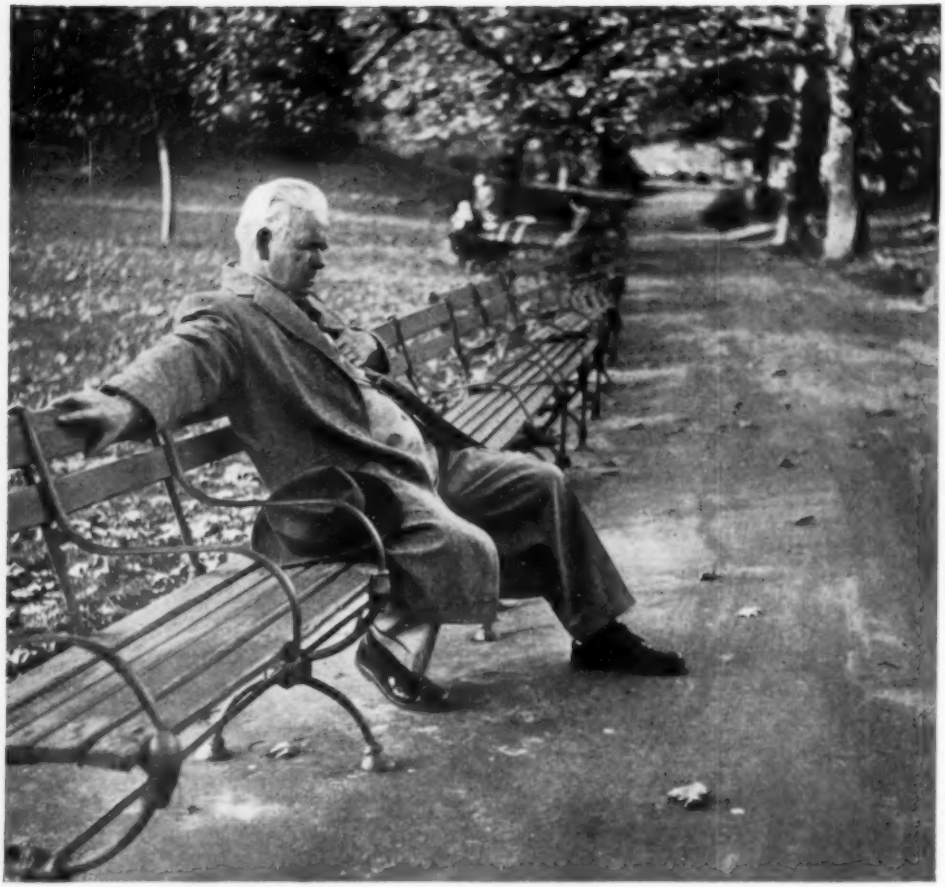
1. Swartout, R., III, and Gunther, K.: "Dizziness:" Vertigo and Syncope, GP *8*:35 (Nov.) 1953.
2. DeWeese, D. D.: Symposium: Medical Management of Dizziness. The Importance of Accurate Diagnosis, Tr. Am. Acad. Ophth. *58*:694 (Sept.-Oct.) 1954.
3. Kunkle, E. C.: Central Causes of Vertigo, J. South Carolina M. A. *50*:161 (June) 1954.



3. Inability to Stand on One Foot

A patient's inability to stand on one foot without lurching may be a helpful test in distinguishing between "dizziness" which is purely psychogenic and that which is of organic origin.

SEARLE



to improve
respiration in cardiac
decompensation

Coramine®

(nikethamide CIBA)

ORAL SOLUTION *(25% aqueous)*

Coramine is a proved respiratory and central nervous system stimulant, useful in controlling Cheyne-Stokes respiration and paroxysmal dyspnea associated with cardiac decompensation.

The choice of oral or intravenous therapy depends upon the seriousness of the situation. When a prompt response is necessary, the intravenous route is preferred. Oral administration produces a slow, progressive improvement—usually one to three days elapse before the optimum benefit is realized.

Since Coramine is rapidly and completely absorbed from the gastrointestinal tract, the Oral Solution (3 to 5 ml., three to five times a day) may be administered in cases of chronic cardiac decompensation or in convalescence following acute coronary occlusion.

SUPPLIED
Oral Solution: bottles of 1 and 3 fluidounces and bottles of 1 pint. Also available for intravenous or intramuscular use: *Ampuls*, 1.5 ml. and 5 ml.; *Multiple-dose Vials*, 20 ml.

CIBA
SUMMIT, N.J.

—Concluded from page 15a

on the ball, asked me—"Doctor, what did the sputum show?" When I told her the report showed Pneumococci and short-chained Streptococci, she came back at me, very brightly—"And did it show any rales?"

J. H. G. M. D.
Pittsburgh, Pennsylvania

A Painful Decoration

A window decorator was working behind shuttered windows with all the lights on, stripped to his shorts because of the heat. He fell backwards off a small stepladder and landed in a sitting position in a basket of Christmas lights. Intense pain brought him to my care, when a rectal examination elicited a foreign body. It was then necessary to explore under general anesthesia. The examination disclosed an intact candle shaped electric bulb which had made a bull's-eye and disappeared into the rectum. There were no ill effects other than intense apprehension and pain, but no tears or other trauma. A forceps delivery brought immediate and complete relief to a very much chagrined young man.

E. R. M., M.D.
Waterbury, Connecticut

Spellbound

One busy morning I found a girl with her eight-months-old baby waiting for me in one of my consultation rooms. She told me her baby had spells and "didn't know nothin."

Our interview went like this:

"Have any other members of your family ever had spells as the baby has had?"

"No sir, 'cept one time when I was doped."

"Do you take dope?"

"No sir, jes one time when I wuz in Ohio and dis boy dat I met at a pawty put some dope in my drink and I din't know nothin' til I wuz five months pregnant!

W.T.R., M.D.
Winder, Georgia

Pre-Natal Nutrition

During emergency room duty, a woman was brought in who appeared to be in acute abdominal pain. She had been advised by friends that turpentine was a good remedy to take care of an unwanted pregnancy. She took it by mouth on two successive days without any results. Shortly before admission, she squirted a dropperful in the vagina. Heavy applications of Nupercaine Ointment seemed to be in order.

P.S.—She has a fine baby boy.

L.G.P., M.D.
Baton Rouge, Louisiana

No Publicity Please . . .

Some time ago, my nurse prepared a young lady on the examining table for a pelvic examination. She then reached over and pulled up a spot light for illumination. The patient started climbing off the table with the remark, "My Lord, he's not going to take a picture of it is he?" My nurse told her, "Heck, no, he's seen hundreds of them but none worth taking a picture of." The exam proceeded uneventfully.

G.W.G., M.D.
Taft, California

NEW *for those with* PARKINSONISM

Smoother activity

and

brighter expression

with **'KEMADRIN'®***

- reduces rigidity and tremor.
- seldom causes dryness of the mouth, blurring of vision or excitation.

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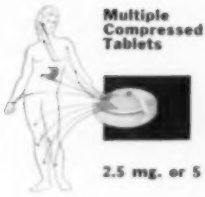
in respiratory allergies



ROUTINE
CO-ADMINISTRATION
MEANS

'Co-Deltra'
(Buffered Prednisone)

'Co-Hydeltra'
(Buffered Prednisolone)



Multiple
Compressed
Tablets

Clinical evidence[1, 2, 3] indicates that to augment the therapeutic advantages of prednisone and prednisolone, antacids should be *routinely* co-administered to minimize gastric distress.

2.5 mg. or 5 mg. prednisone or prednisolone with 50 mg. magnesium trisilicate and 300 mg. aluminum hydroxide gel.

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Philadelphia 1, Pa.
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References: 1. Boland, E. W., *J.A.M.A.* **160**:613, February 25, 1956. 2. Margolis H. M., *et al. J.A.M.A.* **158**: 454, June 11, 1955. 3. Bollet, A. J., *et al. J.A.M.A.* **158**:459, June 11, 1955.

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*Micropulverized dry powder fill, for better toleration, faster assimilation and absence of fishy after-taste.

Walker LABORATORIES, INC., MOUNT VERNON, N. Y., U. S. A.

Diagnosis, Please!

Edited by Maxwell H. Poppel, M.D., F.A.C.R., Professor of Radiology,
New York University College of Medicine and Director of Radiology, Bellevue Hospital Center

(ANSWER ON PAGE 116a)

1. Osteoarthritis
2. Reynaud's disease
3. Trauma
4. Gout

(ANSWER ON PAGE 116a)



in bursitis, tendinitis, tenosynovitis

DRAMATIC RELIEF OF PAIN AND DISABILITY

MY-B-DEN®

(adenosine-5-monophosphate)

Bischoff DIVISION

pain is relieved...function returns...
swelling subsides...residual tenderness disappears

this is the response pattern in acute and subacute bursitis with only 7 or 8 injections.[1] An average of 9 injections in chronic calcified tendinitis produces "unusually good results."[2]

Literature available to physicians—write Medical Service Department.

references: (1) Rottino, A.: Journal-Lancet *71*:237, 1951. (2) Susinno, A. M., and Verdon, R. E.: J.A.M.A. *154*:239 (Jan. 16), 1954.

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is now possible

FOR LARGE DOSAGE OF ASPIRIN...



THE FIRST CLINICALLY PROVEN ENTERIC-COATED ASPIRIN

ASTERIC Brewer

ASTERIC Brewer (5 gr. enteric-coated Aspirin) ***Allows Greater Dosages***— 40, 50, 60, 70 or more grains daily as required where gastric distress and other irritating symptoms resulting from high dosages of plain aspirin tablets are contraindicated.

ASTERIC Brewer is indicated in the treatment of certain rheumatic disorders requiring maximal dosage of aspirin over long periods. *"Enteric-coated aspirin (ASTERIC) has an analgesic effect equal to that of regular aspirin and the onset of its action is only slightly delayed."* Clinically it was shown that equal blood levels were obtained.*

ASTERIC Brewer (5 gr. enteric-coated Aspirin) will be found beneficial for those patients suffering from hemorrhagic gastritis resulting from the irritating effects of plain aspirin and for cases of peptic ulcer which require acetylsalicylic acid therapy.

ASTERIC Brewer (5 gr. enteric-coated marbleized tablets) supplied in bottles of 100 and 1000.

Sample and Literature on request 11-AS-7

*Talkov, R. H., Ropes, M. W., and Bauer, W.: *The Value of Enteric Coated Aspirin*, N.E.J. Med. 242,19 (Jan. 5) 1950.

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well tolerated †iron therapy

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increases serum iron levels rapidly...

raises hemoglobin levels in a matter of days...

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Suppliers of fine chemicals to the pharmaceutical industry for more than a quarter of a century.

Coroner's Corner

TRAUMATIC ASPHYXIA

In all deaths from traumatic asphyxia, such as strangulation, suffocation, or smothering, the preliminary examination of the body and the surroundings is fully as important as the autopsy.

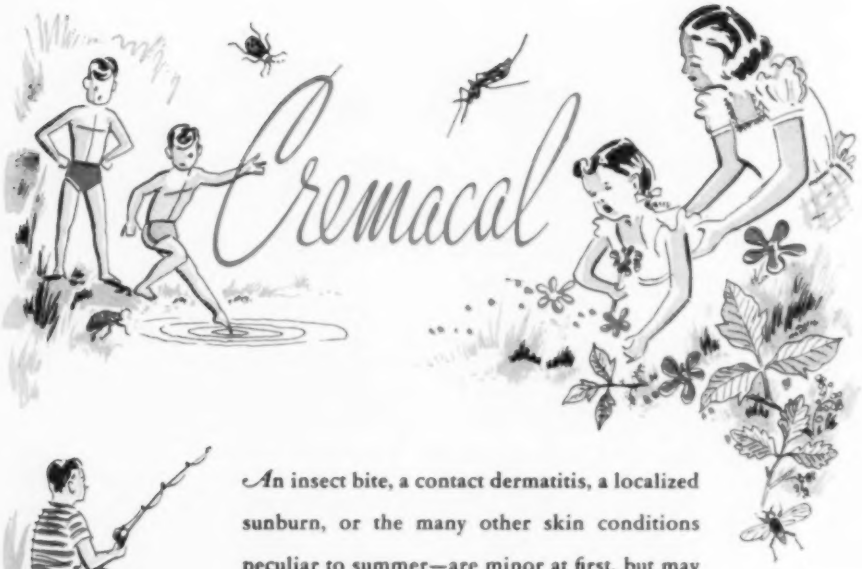
Before performing the autopsy in a death from ligature strangulation, the body should be photographed with the undisturbed ligatures in place to show the looping and the arrangement of the knots.

In removing the ligature, it is best to cut the strands in a region where they are not overlapped and away from the knots. The cut ends can be made secure with adhesive tape or tied with string to prevent their unraveling. The entire ligature with the knots intact should be preserved as an important part of the corpus delicti. After the ligature has been removed, the neck should be photographed to show the furrowed impression produced by it. In cases where the ligatures are multiple and applied in layers, the photographs should be taken serially to show the details of the application and the multiplicity of the devices employed.



Among the ligature strangulations investigated by the Medical Examiner's Office in New York City, there was a case in which the asphyxiation was produced gradually. The victim, profoundly alcoholic, was found dead on his back in bed, his necktie tied snugly around has neck; the face was cyanotic and there was foam oozing from his mouth. There were no furrow marks around the neck, indicating that the necktie had not been exerting extraordinary compression. The lungs were very heavy and edematous. All the findings indicated that there was sufficient pressure to induce a certain amount of asphyxia without the respiratory passages being completely closed off. This effect, together with the depressing action of the alcohol, caused a slow respiratory paralysis and a gradual circulatory failure.

(From Gonzales, T. A., Vance, M., Helpern, M., and Umberger, C. P.: "Legal Medicine, Pathology, and Toxicology", Appleton-Century-Crofts, Inc.)





An insect bite, a contact dermatitis, a localized sunburn, or the many other skin conditions peculiar to summer—are minor at first, but may become considerably aggravated by irritation from scratching or from contact with clothing.

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Although the CREMACAL film is tough and adherent, it can be easily rinsed off with plain water.

Calamine 10% . . . Benzocaine 1% . . . Phenol .5% . . . Menthol .25% in a special greaseless base.

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Five years' clinical experience demonstrates faster recovery from herpes zoster and neuritis

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Clinical Evaluation of Protamide® in Sensory Nerve Root Inflammations and Allied Conditions

With only one to four injections of Protamide®* prompt and complete recovery was obtained in 84% of all herpes zoster patients and in 96% of all neuritis patients treated during a five-year period by Drs. Henry W., Henry G., and David R. Lehrer (Northwest Med. 75:1249, 1955).

The investigators report on a total of 109 cases of herpes zoster and 313 cases of neuritis, all of whom were seen in private practice. They attribute the prompt recovery from the disabling pain of these conditions to the fact that Protamide therapy was started at the patient's first visit. The shortening of the period of disability by this method of management they describe as "a very gratifying experience for both the physician and the patient."

HERPES ZOSTER—In this condition, which often results in disabling pain for prolonged periods, they report that "all but one of the 109 patients responded with complete relief of pain and healing of lesions." There was not a single instance of postherpetic neuralgia in any of the 108 patients who responded to Protamide therapy. Pain relief was prompt, and the duration of disability was greatly shortened, with the most

dramatic responses being observed in patients treated within a few days after onset of symptoms.

NEURITIS—Types of neuritis which in previous experience of the Drs. Lehrer had proved intractable and persisted for weeks despite therapy with Vitamins B_1 or B_{12}, analgesics, massage, and heat, were treated with Protamide. Excluded were cases caused by mechanical pressure on the nerve root. Instead of persisting for weeks as formerly, the disability from this type of neuritis was shortened to a few days when Protamide therapy was started at the first visit. Only one of the 313 patients in this series failed to respond with complete recovery, and none reported relapses.

CONCLUSIONS—Based on their extensive observations in this five-year period, the Drs. Lehrer comment on the "outstandingly superior" results with Protamide, and state that: "Protamide is now our therapy of choice in herpes zoster and radiculitis. Other methods of treatment have been discarded."

**Protamide® is a sterile colloidal solution prepared from animal gastric mucosa . . . free from protein reaction . . . virtually painless on administration . . . used intramuscularly only. Available from supply houses and pharmacies in boxes of ten 1.3 cc. ampuls.*

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Start
PROTAMIDE®
Promptly
for quicker relief, shortened disability, earlier return to work, reduced cost of illness

the formula tells you why PRONEMIA is the MOST POTENT of all oral hematinics

Look at the formula and see for yourself why PRONEMIA has no equal. One capsule daily supplies a generous quantity of every known hemopoietic agent, including purified intrinsic factor concentrate. PRONEMIA is indicated for the treatment of ALL treatable anemias.

EACH CAPSULE CONTAINS:

Vitamin B_{12} with Intrinsic Factor Concentrate	1 U.S.P. Oral Unit
Vitamin B_{12} (additional)	15 mcgm.
Powdered Stomach	200 mg.
Ferrous Sulfate Exsiccated	400 mg.
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dry filled sealed capsules *(a Lederle exclusive!) for more rapid and complete absorption.*

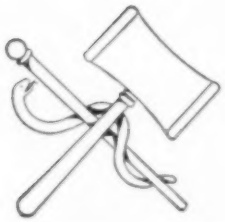
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LEDERLE LABORATORIES DIVISION AMERICAN Cyanamid COMPANY PEARL RIVER, NEW YORK



What's Your Verdict!

Edited by Ann Picinich, Member of the Bar of New Jersey

The city hospital named in this legal proceeding is managed by a board of sixteen governors, whose authority is derived from the city charter. Pursuant to such authority the board adopted rules and regulations, certain of which provide that patients may be treated only by physicians and surgeons who have submitted proper credentials to the board, and that any physician or surgeon wilfully violating any hospital regulation may be denied the use of its facilities.

Denial of such use was imposed upon a duly licensed physician and surgeon who had been admitted to practice in the hospital nine years previously. He now makes application to the Court to review and annul the board's action.

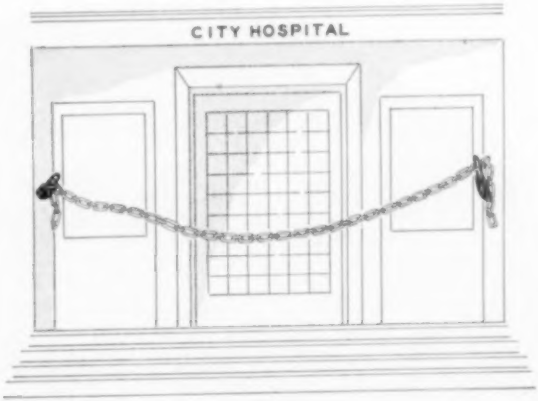
"The other hospitals are such a distance," contends the doctor, "that exclusion from the city hospital will literally deprive me of my practice. Those of my patients requiring hospitalization will be forced to seek other physicians. The investment in my office, and the practice I have established here, will be lost. I say the board acted arbitrarily, without any foundation in fact, and is depriving me of my property without due process of law, for I have been afforded neither notice nor a hearing prior to its determination."

To this the board answers: "Our decision was reached only after a careful consideration of a multitude of condemning facts justifying our action. In the hospital records there is considerable evidence of mismanagement by the physician of medical cases, and of wilful violations of the by-laws, rules and regulations of the hospital."

No evidence of such misconduct, however, was produced before the Court, the board taking the position that it has an uncontrolled discretion in the management of the hospital, and no court can presume to review or correct its official acts.

The Court entered an order denying the physician's application. On appeal, how would you decide?

(Verdict on page 156a)



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potent, specific anti-arthritic

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(phenylbutazone GEIGY)

relieves pain • improves function

resolves inflammation

BUTAZOLIDIN being a potent therapeutic agent, physicians unfamiliar with its use are urged to send for literature before prescribing it.

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"Phenylbutazone [BUTAZOLIDIN] shows a dramatically low failure rate in rheumatoid spondylitis. In rheumatoid spondylitis, phenylbutazone is[a] drug of choice and to date the results have been much superior to those secured with x-ray therapy."

Holbrook, W. P.: M. Clin. North America 39:405, 1955.

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Against Disease and Discomfort

in urinary tract infections

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For patients harried by hurry and worry —

Noludar 'Roche' brings calm and quiet. Not a barbiturate, not habit forming, 50 mg t.i.d. provides daytime sedation with little or no loss of acuity, or 200 mg h.s. induces a sound night's sleep with a refreshed and clear-headed awakening. Noludar tablets, 50 and 200 mg; elixir, 50 mg per teaspoonful. Hoffmann-La Roche Inc, Nutley, New Jersey.



Noludar® — brand of methyprylon

clinically proved in many common infections[1-60]

Hemolytic streptococcal infections

Pharyngitis/Tonsillitis/Sinusitis
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Staphylococcal infections/Pneumococcal infections/Gonococcal infections/ Vincent's Infection/Prevention of streptococcal infection in individuals with a history of rheumatic fever/ Prevention of secondary infection due to penicillin-susceptible organisms

in dosage of just 1 or 2 tablets t.i.d.

and is far less costly than other penicillin salts

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SQUIBB 200,000 UNIT BUFFERED PENICILLIN G POTASSIUM TABLETS

Recommended dosage: 1 or 2 tablets t.i.d. without regard to meals. Bottles of 12 and 100.

References: 1. Boger, W. P., J. Amer. Ger. Soc. 3:556, Aug. 1955. 2. Lapin, J. H., Ann. Allergy 13:169, March-April 1955. 3. Andelman, M. B. and Fischbein, W. I., Antibiotic Med. 1: 136, March 1955. 4. Statements of American Heart Association, Council on Rheumatic Fever and Congenital Heart Disease, Circulation 11:317, Feb. 1955. 5. Miller, J. M. et al., Antibiotics Annual 1954-55, Medical Encyclopedia Inc., N. Y., p. 105. 6. Seal, J. R. et al., J. Lab. & Clin. Med. 44:831, Dec. 1954. 7. Martin, W. J. et al., Am. Pract. & Dig. Treat. 5:813, Oct. 1954. 8. Henner, R., Eye, Ear, Nose & Throat Monthly 33:530, Sept. 1954. 9. Rodstein, M. and Young, D., Clin. Med. 61:695, Sept. 1954. 10. Bernstein, S. H. et al., A. M. A. Arch. Int. Med. 93:894, June 1954. 11. Craige, E., North Carolina M. J. 14:593, Dec. 1953. 12. Barach, A. L., J. Amer. Ger. Soc. 1:616, Sept. 1953. 13. Barach, A. L., Geriatrics 8:423, Aug. 1953. 14. Boger, W. P., Indus. Med. & Surg. 22:288, July 1953. 15. Young, D. and Rodstein, M., J.A.M.A. 152:987, July 1953. 16. Queries and Minor Notes, J.A.M.A. 152:1083, July 1953. 17. Roberts, E., A. M. A. Amer. J. Dis. Child. 85: 643, June 1953. 18. Spink, W. W., J.A.M.A. 152:585, June 1953. 19. Huang, N. N. and High, R. H., J. Pediat. 42:532, May 1953. 20. Antibiotics: Round Table Discussion, Pediatrics 11:270, March 1953. 21. Feinberg, B., Rhode Island M. J. 36: 138, March 1953. 22. Flippin, H. F., Delaware State M. J. 25: 55, March 1953. 23. Denny, F. W. Jr., Postgrad. Med. 13:153, Feb. 1953. 24. Flood, J. M., A. M. A. Arch. Dermat. & Syph. 67:42, Jan. 1953. 25. Kohn, K. H., Milzer, A. and MacLean, H., J.A.M.A. 151:347, Jan. 1953. 26. Siegal, S. et al., J. Allergy 24:1, Jan. 1953. 27. Statements of American Heart Association, Council on Rheumatic Fever and Congenital Heart Disease, J.A.M.A. 151:141, Jan. 1953. 28. Keefer, C. S., Pennsylvania M. J. 55:1177, Dec. 1952. 29. Kerrell, W. E., J.A.M.A. 150:1450, Dec. 1952. 30. Levy, D. F., Connecticut State M. J. 16:899, Dec. 1952. 31. Romansky, M. J. and Kelser, G. A., J.A.M.A. 150:1447, Dec. 1952. 32. Thomas L., Minnesota Med. 35:1105, Dec. 1952. 33. Jones, C. C., J. Iowa M. Soc. 42:533, Nov. 1952. 34. Reimann, H. A., Postgrad. Med. 12:255, Sept. 1952. 35. Bunn, P. A., N. Y. State J. Med. 52:2005, Aug. 1952. 36. Finland, M., New England J. Med. 247:557, Oct. 1952. 37. Babione, R. W. et al., U. S. Armed Forces M. J. 3:973, July 1952. 38. Hansen, A. E., South. M. J. 45:423, May 1952. 39. Dowling, H. F., G. P. 5:53, Feb. 1952. 40. Rhoades, P. S., G. P. 5:67, Feb. 1952. 41. Dowling, H. F. and Lepper, M. H., Med. Clin. North Amer., Jan. 1952, p. 247. 42. Karellitz, S. and Schifrin, N., Postgrad. Med. 11:17, Jan. 1952. 43. Panel Discussion, Pennsylvania M. J. 55:42, Jan. 1952. 44. Flippin, H. F. et al., J.A.M.A. 147:918, Nov. 1951. 45. Massell, B. F., Mod. Concepts Cardiovas. Dis. 20:105, Sept. 1951. 46. Weinstein, L., Boston Med. Quarterly 2:1, Sept. 1951. 47. Massell, B. F. et al., J.A.M.A. 146:1469, Aug. 1951. 48. Finland, M., Bull. New York Acad. Med., 27:199, April 1951. 49. Wheatley, D., Brit. M. J. 1:703, March 1951. 50. Keefer, C. S., Postgrad. Med. 9:101, Feb. 1951. 51. Bunn, P. A. et al., J.A.M.A. 144: 1540, Dec. 1950. 52. Weinstein, L. and Perrin, T. S., J. Pediat. 47:844, Dec. 1950. 53. Keefer, C. S., Am. J. Med. 7:216, Aug. 1949. 54. Robinson, J. A., Hirsch, H. L. and Dowling, H. F., Am. J. Med. 4:716, 1948. 55. Barach, A. L. and Garthwaite, B., Ann. Allergy 5:297, Aug. 1947. 56. Herrold, R. D., J. Urol. 57:897, May 1947. 57. White, H. J., Lee, M. E. and Alverson, C., Proc. Soc. Exper. Biol. & Med. 62:35, 1946. 58. Baumann, F. et al., J. Allergy 17:264, Sept. 1946. 59. Gamble, T. O. et al., Am. J. Obst. & Gynec. 50:514, Nov. 1945. 60. Woofter, A. C. and Hoffman, O. E., J. Iowa M. Soc. 35:189, May 1945.

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a new substance

in a variety of rheumatic disorders...

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flexin*

(Zoxazolamine†, McNeil)

the first orally effective lissive‡

Dosage: *Adults*—1 to 2 tablets three or four times a day with food or immediately after meals. *Children*—1 tablet two to four times a day.

Supplied: Yellow, scored tablets (250 mg.), bottles of 50.

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‡**Lissive:** Relief of skeletal muscle spasm without interference with normal function.

for true spasmolysis of skeletal muscle

Synthesized and characterized by McNeil Laboratories, FLEXIN relieves the disability and pain of skeletal muscle spasm—common denominator of many musculoskeletal and neurological disorders."Its chief advantages are oral route of administration, long duration of action, and minimal side-effects.[2]

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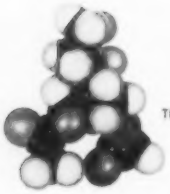
FLEXIN provides superior and long-lasting—up to 6 hours—spasmolysis of voluntary muscle in low back syndromes, fibrositis, strains, sprains, and in noninflammatory rheumatic and arthritic disorders. In one preliminary report of 100 patients, FLEXIN demonstrated "...an 85% over-all effectiveness."[1]

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Other studies indicate that FLEXIN is of value in a highly significant number of patients with multiple sclerosis,[3,4] as well as in other spinal spasticity states, cerebral vascular lesions and parkinsonism.

(1) Smith, R. T.; Kron, K. N.; Peak, W. P., and Hermann, I. F.: J.A.M.A. 160:745 (Mar. 3) 1956. (2) Amols, W.: J.A.M.A. 160:742 (Mar. 3) 1956. (3) Abrahamsen, E. H., and Baird, H. W., III: J.A.M.A. 160:749 (Mar. 3) 1956. (4) Rodriguez-Gomez, M.; Valdes-Rodriguez, A., and Drew, A. L.: J.A.M.A. 160:752 (Mar. 3) 1956.

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"This form of relaxation completely removes me from the daily problems of living and working.

"The palette and brush are my instruments against boredom and the key to large vistas for personally expressing the power and quality of perceiving and interpreting the beautiful.

"Perseverance, patience, and self-criticism leisurely enhance my skill in creating objects that are a delightful pleasure for others to enjoy and at the same time give me the warm feeling of satisfying accomplishment.

"This hobby is also my personal insurance against the dejection and despondency that we see ever present during a prolonged illness or its convalescence. This is my way of aging cheerfully and gracefully and at the same time keeping my life in balance."

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A Most Potent Anthelmintic Against

PINWORMS (Oxyuriasis)

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Oxyuricidal properties of Vermizine's principal ingredient—Piperazine Gluconate—accomplish rapid reduction and elimination of infestations, both in children and adults. Well-tolerated; low in toxicity. No serious untoward effects were observed following recommended dosage.

Pleasing, Strawberry Flavor Invites Patient Acceptance

Compounded in a pleasing strawberry-flavored syrup, Vermizine solves administration problems—is highly acceptable even to small children.

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BETTER

results are obtained with STERANE[1]—3 to 5 times more active than hydrocortisone or cortisone.

BREATHING

capacity is greatly enhanced. "Relief of symptoms is more complete and maintained for longer periods with relatively small doses."[2]

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of minerals and fluids usually remains undisturbed. This proves "especially advantageous in those patients with cardiac failure requiring therapy . . ."[3]



in bronchial asthma

Sterane®

brand of prednisolone

Supplied: White, 5 mg. oral tablets, bottles of 20 and 100. Pink, 1 mg. oral tablets, bottles of 100. Both deep-scored.

1. Johnston, T. G., and Cazort, A. G.: J. Allergy 27:90, 1956. 2. Schwartz, E.: New York J. Med. 56:570, 1956. 3. Schiller, I. W., et al.: J. Allergy 27:96, 1956.

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New Freedom

in Angina

because attacks are reduced in incidence and intensity, and the patient gains a new perspective on life.

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LONG-ACTING TABLETS CONTAINING PENTAERYTHRITOL TETRANITRATE (PETN) 10 MG AND RAUWILOID® (ALSEROXYLON) 1 MG.

DOSAGE: one to two tablets q.i.d., before meals and on retiring. Available in bottles of 100.

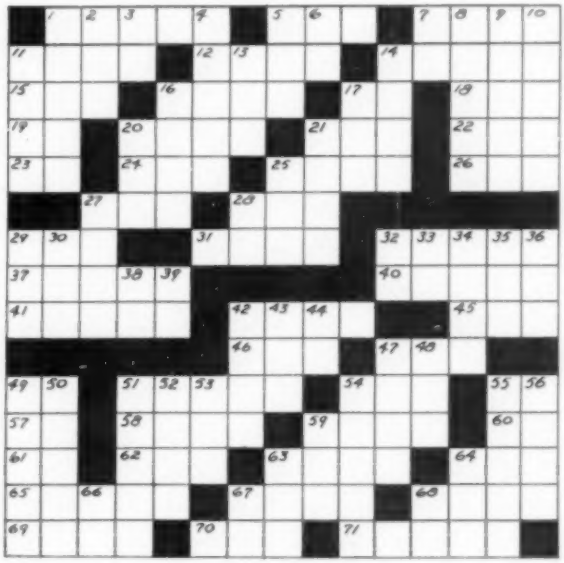
Riker

Los Angeles

Medical Teasers

A Challenging Crossword Puzzle for the Physician

(Answers on page 122a)



Contributed by Mary Ellen Summerfield

ACROSS

1. Stage of a disease
5. Solution (Abbr.)
7. Powdered soapstone
11. Lower lateral nasal cartilage
12. Syringe
14. Metal mixture
15. Illness (Fr.)
16. Competent
17. Before meals (Lat. Abbr.)
18. N.O is one
19. Old Tuberculin
21. Stop
21. A metal
22. ——Idoate, Poison Remedy
23. Concerning
24. In what manner
25. Crippled
26. Within (Comb. form)
27. Useful bean
28. Sheet of India rubber
29. Also
31. Crumb (Lat.)
32. Pertaining to part of the pelvis
37. Pretaining to birds
40. Skin
41. Abnormal respiratory sounds
42. Amount of medicine
45. Cereal
46. Thoracic bone
47. Homo Sapiens
49. Blood pressure
50. Pretaining to the nose
54. Baglike organ
55. Celium (Symb.)
57. Lanthanum (Symb.)
58. Cheese
59. Sing gayly
60. Atop
61. Like
62. Fetal position: abbr.
63. Without (Lat.)
64. ——Pecia, Baldness
65. Bennett's fracture
67. Sodium Bicarbonate
68. Implement
69. Distant (Prefix)
70. Salt
71. Citrus Fruit

DOWN

1. Flattened surface
2. Man's name
3. Argon (Sym.)
4. Joint
5. Perceive
6. Conjunction
7. Thallium (Sym.)
8. Seaweed (Pl.)
9. Lends
10. ——Scopy, bladder examination
11. Love
13. Gingiva
14. Inflammatory disease of the sebaceous glands
16. Nautical hello
17. Direct of the U. N.
20. Health Organization
21. Swelling of the feet and legs
25. Milklike medicine
27. Defile
28. Twice (Prefix)
29. Coal derivative used in ointments
30. Eggs
32. The True Unconscious (Freud)
33. Article (Fr.)
34. Anti-Anemia factor
35. Medical society
36. Animal used in bio-assay of digitalis
38. Antitoxic unit (German)
39. Q. ——, not enough (Lat.)
42. Apothecaries' unit of weight
43. Liquid fat
44. Tin (Sym.)
47. Producer of spermatoboa
48. Deed
49. Nucleated erythrocyte
50. Soft viscid substance
51. Transmitter of impulses
52. Add (Latin)
53. Natural juice of a living structure
54. Pretaining to a cavity
55. Part of the intestine
56. Tautomeric form
59. Top
63. Liquid colloid solution
64. Anodal opening odor (Abbr.)
66. Aluminum (Sym.)
67. According to art (Latin)
68. Temporomandibular (Abbr.)

Metrazol
ORAL



in senility
geriatrics
convalescence
fatigue states
debility

DOSE: 1 or 2 tablets or teaspoonfuls METRAZOL Liquidum three or four times a day, starting with the larger dose for the first few weeks.

Metrazol®, brand of Pentylenetetrazol, a product of E. Bilhuber, Inc.

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ORANGE, NEW JERSEY

LETTERS TO THE EDITOR

This department is offered as an Open Forum for the discussion of topical medical issues. All letters must be signed. However, to protect the identity of writers, who are invited to comment on controversial subjects, names will be omitted when requested.

Dear Doctor Jacobson:

A recent article which appeared in your distinguished publication is the reason for this letter. I refer to the May, 1956 issue which contained an article on the subject of *keloids*, and which appeared on pages 553-556 of that issue.

After reading the above article very carefully, it appeared to me that this writer either did not take the necessary time to review the available literature sufficiently, or possibly he did not believe what he read. I presume this author preferred to follow the stereotyped thoughts on this interesting topic which have been appearing in most textbooks for many years. Apparently such new facts, as have been recorded by non-board members, such as myself, tend to be either overlooked or forgotten. It now appears that only the data produced by board members can be regarded as being strictly factual. Data from other sources seem to find the realm of anonymity, more so now than was the case

—Continued on page 48a



blue
at
breakfast?
BONADOXIN
stops
morning
sickness

90-95% effective,[1-2] "no side effects were observed"[2] one tablet at bedtime

1. Groskloss, H. H. et al: Bonadoxin®: a unique control for nausea and vomiting of pregnancy. Clin. Med. 2:885 (Sept.) 1955. 2. Tartikoff, G.: The antiemetic function of Bonadoxin in the nausea and vomiting of pregnancy. Clin. Med. 3:223 (Mar.) 1956.

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Introducing

ANOTHER DOHO "FIRST"

exciting new

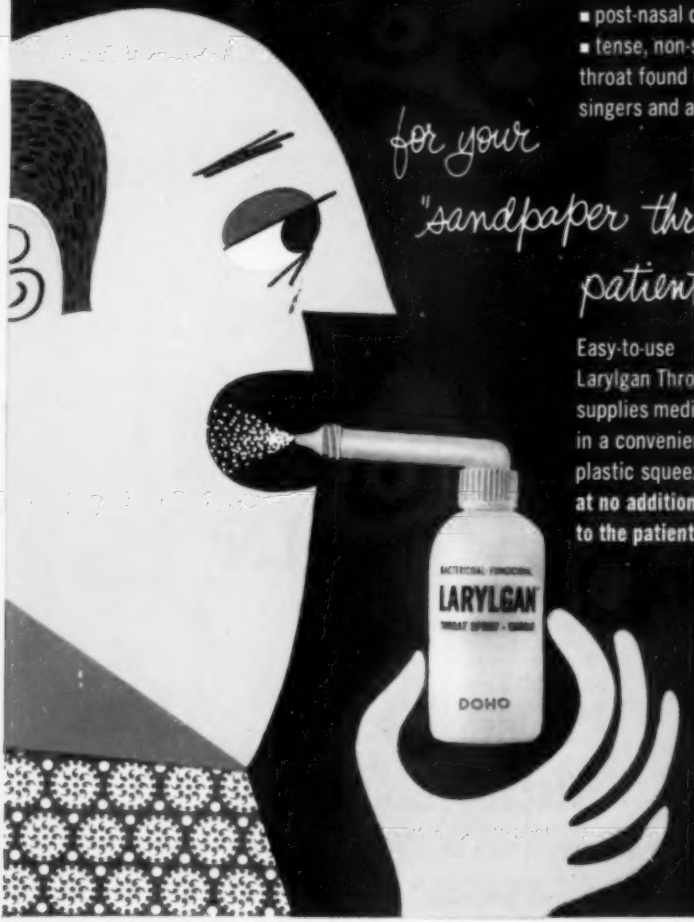
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BACTERICIDAL AND FUNGICIDAL WITHOUT SIDE EFFECTS

SOOTHING THROAT SPRAY/GARGLE

For infectious and non-infectious sore throat involvements as:

- smoker's throat
- post-tonsillectomy
- post-nasal drip
- tense, non-salivating throat found in actors, singers and artists



for your "sandpaper throat" patient

Easy-to-use Larylgan Throat Spray supplies medication in a convenient plastic squeeze atomizer, **at no additional cost to the patient.**

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three-fold action against anxiety, stress and tension states with

NEURO-CENTRINE*



adds emotional to visceral tranquility

More than an antispasmodic is needed for relief of spastic conditions of the gastrointestinal tract, associated with underlying anxiety, stress and tension.

NEURO-CENTRINE has a three-fold action against anxiety, stress and tension states. It combines:

1. **Phenobarbital (15.0 mg.)—a tested sedative.**
2. **CENTRINE* (0.25 mg.)—an antispasmodic and anticholinergic with central action; atropine-like in action with minimal side effects.**
3. **Reserpine (0.05 mg.)—a well-known tranquilizer.**

NEURO-CENTRINE is also recommended for the relief of symptoms associated with functional disorders of the gastrointestinal and cardiovascular system.

Descriptive literature on request.

Bristol

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CAN EXPECT
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LETTERS TO THE EDITOR

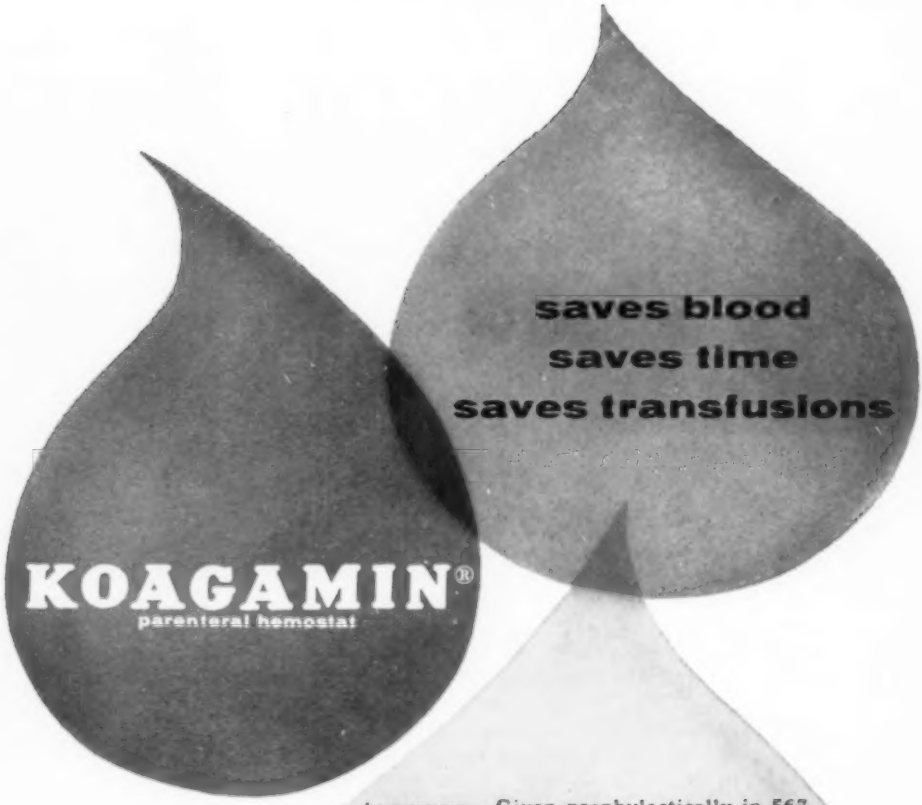
—Continued from page 44a

merely a few years ago. The fact of having spent a considerable number of years studying such a challenging topic both clinically and experimentally does not give any investigator the idea that his work will be used by other colleagues. However, if this work had been produced in a well known medical center or a higher institute of learning, such an investigator's chance of having his work accepted becomes very real.

The formation of keloidal growths appears to be dependent upon the body's reaction to some form of injury or trauma. The basic lesion begins because of the production of inflammation in which the serous exudate plays a stellar rôle. This serous exudate, or edema, possesses the marked ability to attract fibroblasts which begin to proliferate in such an injured area. Perhaps the trigger mechanism which sets off this reaction is the leukotaxin, which, according to Menckin's studies, has the ability to chemically attract fibroblasts (chemotropism). If such a fibroblastic proliferation goes on unchecked, the overproduction of fibroblastic tissue (scar tissue) ensues.[1]

Should any of my readers doubt the above statements, these observations can be checked rather easily. One has only to select a suitable skin area. Intradermal injections of blood serum or even whole blood are performed in this same site twice daily. This procedure is repeated for about 2 weeks. The experimental skin area is extirpated surgically and is prepared properly for a microscopic examination. I am sure the in-

—Continued on page 102a



in surgery – Given prophylactically in 567 surgical cases, a single injection of KOAGAMIN was found "...to reduce blood loss and to facilitate surgical procedures...often obviate[s] the use of transfusion...."*

in emergency – Acting directly on the clotting mechanism, KOAGAMIN arrests any capillary or venous bleeding in minutes – not hours, unlike vitamin K.

in inaccessible bleeding – By controlling hemorrhage of systemic origin, KOAGAMIN saves time and blood without the hazard of thrombosis or toxic reaction – no untoward effect ever reported.

*Joseph, M.: Am. J. Surg. *87*:905, 1954.

KOAGAMIN, an aqueous solution of oxalic and malonic acids for parenteral use, is supplied in 10-cc. diaphragm-stoppered vials.

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HARD-TO-KILL TRICHOMONADS

EXPLODE

WITHIN 15 SECONDS' CONTACT WITH VAGISEC LIQUID

WITH THE Davis technique,† using VAGISEC® liquid and jelly, flare-ups of vaginal trichomoniasis rarely occur. VAGISEC liquid actually explodes trichomonads within 15 seconds after douche contact.[1] Better than 90 per cent apparent cures follow use of this new trichomonacide,[2] developed as "Carlendacide" by Dr. Carl Henry Davis, noted gynecologist and author, and C. G. Grand, research physiologist.[3]

No trichomonad escapes—The overwhelming action of VAGISEC liquid dooms the trichomonad. One chelating agent and two surface-acting agents combine in attack to weaken the cell membrane, to remove waxes and lipid materials from the membrane surface, and to denature the protein. With its cell wall destroyed, the parasite imbibes water, swells and explodes. All this occurs within 15 seconds. Only scattered fragments remain.

No other agent or combination of agents kills the trichomonad in this specific fashion or with the *speed* of VAGISEC liquid.[3] When the patient uses VAGISEC jelly as well—the recommended routine—these good effects continue indefinitely.[4]

Reaches hidden trichomonads—Unlike many agents, VAGISEC liquid thoroughly penetrates and dissolves the cellular debris and mucoid material lining the vaginal surface.[3] It reaches hidden trichomonads—often the cause of treatment failure—as well as parasites swimming freely in the canal.

The Davis technique—Office therapy with VAGISEC liquid is combined with home treatment. Both liquid and jelly are prescribed.

> OFFICE TREATMENT—*Wipe vaginal walls dry with cotton balls, then wash thoroughly for about three minutes with a 1:100 dilution of* VAGISEC *liquid. Remove excess fluid with cotton balls. Dr. Davis recommends three treatments the first week, two the second and one the third.*
>
> HOME TREATMENT—*Patient douches with* VAGISEC *liquid every night or morning and then inserts* VAGISEC *jelly. Home treatment is continued through two menstrual periods, but omitted on office treatment days. Douching is contraindicated in pregnancy.*

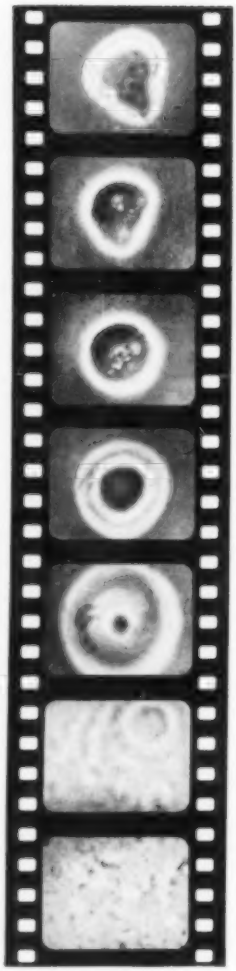
Husband re-infects wife—Since "trichomonads may be passed from the infected male to the uninfected partner during coitus,"[5] prevent re-infection by recommending the use of condoms. Specify RAMSES,® the finest possible rubber prophylactic, transparent, very thin yet strong; or XXXX (FOUREX)® skins, of natural animal membrane—pre-moistened. Your prescription of one of these brands insures the protection afforded by Schmid quality condoms and assures full acceptance of your regimen. At all pharmacies.

Active ingredients in VAGISEC liquid: Polyoxyethylene nonyl phenol, Sodium ethylene diamine tetra-acetate, Sodium dioctyl sulfosuccinate. In addition, VAGISEC jelly contains Boric acid, Alcohol 5% by weight.

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†Pat. Appl. for

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Top to bottom:
2 sec. CONTACTS
4 sec. COMPLEXES
6 sec. DISSOLVES
8 sec. DENATURES
10 sec. SWELLS
15 sec. EXPLODES
16 sec. SCATTERS

References: 1. Davis, C. H.: J.A.M.A. 137:126 (Jan. 8) 1955. 2. Davis, C. H.: West. J. Surg. 63:53 (Feb.) 1955. 3. Davis, C. H., and Grand, C. G.: Am. J. Obst. & Gynec. 68:559 (Aug.) 1954. 4. Davis, C. H. (Ed.): Gynecology and Obstetrics (revision), Hagerstown, Md., W. F. Prior, 1955, vol. 3, chap. 7, pp. 23-33. 5. Draper, J. W.: Internat. Rec. Med. 168:563 (Sept.) 1955.



Who Is This Doctor?

Born at Winchester, New Hampshire, October 9, 1860; died, August 7, 1927.

Entered Harvard Medical School in 1880.

Interned at Boston City Hospital in 1884. (When he left Boston City, the superintendent said: "There goes a young man who will never come to any good.")

* *

Served as surgeon with the U. S. Army in Apache uprisings.

In 1895, President and Mrs. McKinley became his patients.

* *

Was a Colonel with Teddy Roosevelt's "Rough Riders" which he helped organize.

He commanded cavalry brigade at San Juan Hill; later became military Governor of Cuba (1900-1902). The following year he was promoted to Major General.

From 1906 to 1908, he was in command of U. S. forces in the Philippines.

Named Chief of Staff, U. S. Army in 1910.

* *

In the 1920 Republican Convention, he sought the Presidential nomination. And though he was the strongest contender in number of delegates, he was outflanked politically at the convention and lost the nomination.

* *

Was the Governor General of the Philippines from 1921-1927.

Awarded the Congressional Medal of Honor and the Distinguished Service Medal.

A fort in Missouri bears his name.

Can you name the doctor without turning to page 134a?



because every baby is an individual...

No two babies have ever been born who were exactly alike. Even in identical twins, the tiny whorls on soles and finger tips identify the individual.

So, in infant feeding, the doctor confronts an individual problem each time.

Some years ago, medical research determined that the most satisfactory all-round solution to bottle feeding problems lay in evaporated milk formulae . . . a conclusion borne out by the sure, steady growth of 50,000,000 babies fed evaporated milk.

The flexibility of evaporated milk formulae—which permits the doctor to specify exact carbohydrate needs and alter them, if necessary—is an important reason for this unique success story.

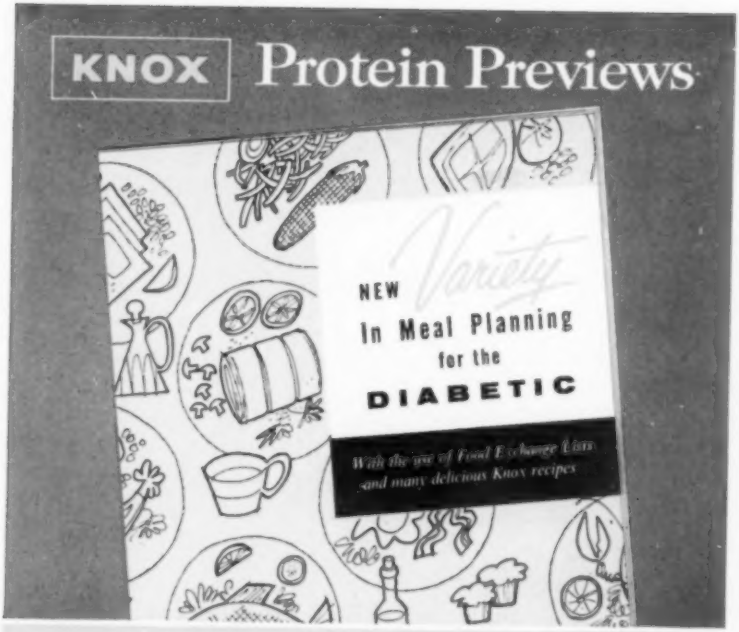
The higher level of protein sufficient to duplicate the growth effect of human milk has been a major factor in the healthy growth of 50,000,000 babies.

And no other formula preparation yet available combines all evaporated milk's major advantages with its great economy.



PET EVAPORATED MILK
is the "going home" formula for more babies than any other form of milk.

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Newest Knox Brochure Aids Dietary Management of Diabetics



The new Knox booklet "New Variety in Meal Planning" has been prepared to help the physician enlist the patient's enthusiasm for dietary measures and to help maintain this enthusiasm. It explains the importance of diet to the diabetic, shows him how to use the newest dietary advance—Food Exchange Lists[1]—and then describes how to provide tasty variety with 14 pages of tested, diabetic recipes.

"New Variety in Meal Planning" makes no attempt to prescribe a system of treatment. It shows how the recipes described may be used to good advantage in practically any system of diabetic management. If you would like a supply for your practice, use coupon below.

1. The Food Exchange Lists referred to are based on material in "Meal Planning with Exchange Lists" prepared by Committees of American Diabetes Association, Inc., and The American Dietetic Association in cooperation with the Chronic Disease Program, Public Health Service, Department of Health, Education and Welfare.

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Professional Service Dept. MT-4
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Please send me . . . . . copies of the new Knox diabetic brochure describing the use of Food Exchange Lists.

YOUR NAME AND ADDRESS

magnified potency

with Meti-steroid

effectiveness in allergic

and inflammatory dermatoses

new

Meti-Derm cream 0.5%

with METICORTELONE, original brand of prednisolone



- *approximately*

twice the per milligram

anti-inflammatory activity

of topical hydrocortisone

- *cosmetically acceptable*
- *water-washable*

for effective local relief of allergic (atopic and contact) dermatoses, nonspecific anogenital pruritus.

formula: Each gram of water-washable METI-DERM Cream contains 5 mg. (0.5%) of prednisolone, free alcohol, in a cosmetically acceptable base.

packaging: METI-DERM Cream, 0.5%, 10 Gm. tube.

METI-DERM,® brand of prednisolone topical.

METICORTELONE,™ brand of prednisolone.

T.M.

...and adding dual control

to Meti-steroid skin therapy—

protection

against infection

new

Meti-Derm ointment

with Neomycin



enhanced effectiveness

in allergic, inflammatory

dermatoses when

minor infection

is present

or anticipated



neomycin in addition to prednisolone, free alcohol—for protective coverage against virtually all pathogenic skin bacteria with a well-tolerated, *topical* antibiotic.

formula: Each gram of water-washable METI-DERM Ointment with Neomycin contains 5 mg. (0.5%) prednisolone, and 5 mg. (0.5%) neomycin sulfate equivalent to 3.5 mg. neomycin base.

packaging: METI-DERM Ointment with Neomycin, 10 Gm. tube.

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Hypotensive action without side effects

RENIR

Reserpine with a safety factor

The desirable hypotensive action of reserpine is often accompanied by distressing side effects. These include nasal congestion, hyperperistalsis, nightmares and mental depression.

Renir, which provides the desired action of reserpine, counterbalanced by the well-known effects of ephedrine, offers the optimum in hypotensive therapy. Untoward reactions are minimized, and tranquilization is maintained.

Investigators state that: "... with reserpine and ephedrine, the untoward effects of each are counteracted and the desirable effects of each are enhanced."[1]

INDICATIONS: In the treatment of mild, moderate and labile hypertension. Also anxiety and tension states; mild to severe neurosis.

SUGGESTED DOSAGE: For hypertension, 1 to 3 tablets daily. As a tranquilizer in mentally disturbed states, 2 to 4 tablets daily.

SUPPLIED: Tablets containing reserpine 0.25 mg., and ephedrine 8.0 mg., in bottles of 100.

CONTRAINDICATIONS: To be used with caution in patients with peptic ulcer, mental depression, cardiac conditions and related disorders.

LITERATURE AND SAMPLES ON REQUEST.

1. *Feinblatt, T.M., Feinblatt, H.M., and Ferguson, E.A.: Rauwolfia-Ephedrine, A Superior Hypotensive-Tranquilizer. In press.*

THE S. E. MASSENGILL COMPANY

Bristol, Tennessee

New York • Kansas City • San Francisco



Mediquiz

These questions are from a civil service examination recently given to candidates for physician appointments in municipal government.
Like to see how you would fare? Answers will be found on page 128a.

1. The most convenient formula for estimating blood or blood substitute replacement in a burned patient in the first 48 hours is based on: (A) hematocrit and hemaglobin determinations; (B) blood volume determination; (C) percent of burned surface; (D) body weight and percent of burned surface.

2. A healthy, 37-year-old male was involved in an auto accident when the car he was driving collided head on with another car. Due to the impact he was thrown forcibly against the steering wheel and received a considerable blow to the left lower thoracic cage and upper abdomen. He is hospitalized and except for some tenderness in the contused area, findings are negative. X-rays of chest and abdomen are negative. The patient is kept under observation for three days, becomes asymptomatic and is discharged home. Seven days after discharge, he is readmitted in profound shock, with complaints of pain in the left upper and left lower quadrants. His blood count, hematocrit and blood pressure indicate profound loss of blood. The most likely diagnosis is: (A) massive hemorrhage from bleeding ulcer; (B) hemothorax; (C) delayed hemorrhage from rupture of the spleen; (D) ruptured viscus.

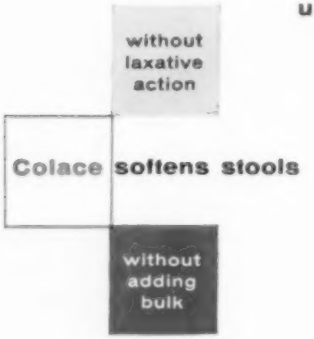
3. Of the following methods of artificial respiration, the one which has been shown to produce the highest volume of pulmonary ventilation is: (A) prone, back-pressure (Schafer); (B) arm-lift, chest-pressure (Silvester); (C) end-rocking; (D) hip-lift, back pressure.

4. Of the following, the one which is not a lipotropic agent is: (A) methionine; (B) choline; (C) acetylcholine; (D) inositol.

5. In the dietary management of decompensated Laennec's cirrhosis of the liver, the one of the following which is preferred is a high caloric diet containing: (A) carbohydrates, protein, fats, supplemented with B-vitamins and restricted in sodium chloride; (B) carbohydrates and protein, supplemented with B-vitamins but devoid of fats, with no sodium chloride restriction; (C) carbohydrates and fats, restricted in protein and sodium chloride, supplemented with

—Concluded on page 63a

*A new **MEAD** specialty for all ages*



usual oral dosage

Colace Capsules . . .

for adults and older children

Mild constipation or prevention:
50 or 100 mg. (one or two 50 mg. capsules) daily

Moderate or severe constipation:
Initially—100 mg. (two 50 mg. capsules) b.i.d. for 3 days

For Maintenance—50 or 100 mg. (one or two 50 mg. capsules) daily

Colace Liquid . . .

for infants and children under 6

Initially. 1 to 2 cc twice daily for 3 days
For Maintenance. 0.5 to 1 cc. twice daily

in enemas

Retention Enema:
5 cc. Liquid in up to 90 cc. of enema fluid.

Flushing Enema:
1 cc. Liquid for each 100 cc. of enema fluid.



Supplied COLACE Capsules (50 mg.) and COLACE Liquid (1% Solution—10 mg. per cc.)

MEAD

Colace

DIOCTYL SODIUM SULFOSUCCINATE, MEAD*

softens stools for easy passage

Continued clinical studies† with Colace confirm its wide usefulness and safety in chronic constipation and in other bowel problems of everyday practice.

†Antos, R. J.: A New Approach to the Treatment of Severe Constipation, Southwestern Medicine 37: 236-237 (April) 1956.

Colace,

by reducing surface tension, increases the wetting and penetrating efficiency of fluids in the colon, keeping stools soft.

Colace

is indicated in the treatment or prevention of chronic constipation or fecal impaction, or whenever stool softness is required.

*PATENTS PENDING

MEAD SYMBOL OF SERVICE IN MEDICINE

MEAD JOHNSON & COMPANY • EVANSVILLE 21, INDIANA, U.S.A.

Announcing

the newest member of
the ***MEAD*** family
of formula products



new

LIQUID **Olac**®

provides a balanced formula, minimizes feeding problems

New Liquid Olac is a convenient, ready-to-use form of Olac, which for many years has enjoyed wide acceptance as a highly nutritious formula product in powdered form.

with all these advantages:

- Well tolerated
- Promotes sturdy growth and development
- Produces normal, formed stools
- No offensive regurgitation "after-smell."

promotes sturdy growth...
without untoward effects

In extensive clinical tests, babies fed Liquid Olac have characteristically shown excellent rates of growth . . . developed sturdy musculature and good tissue turgor. Only rarely has constipation, regurgitation, vomiting, loose stools or diarrhea occurred.

MEAD

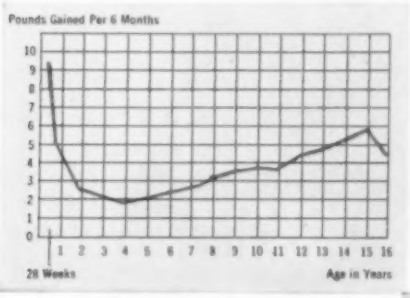
LIQUID Olac

is a nutritionally balanced formula

LIQUID OLAC is scientifically balanced for good nutrition and easy assimilation. Dextri-Maltose supplements the lactose of the milk to provide a balanced carbohydrate mixture for spaced absorption. Fat is provided as a single, highly refined vegetable oil. Protein is supplied in generous but safe quantities for

- sturdy growth and development
- strong bones
- good tissue turgor
- defense against infection

supplies generous protein when need is greatest



Growth rate in pounds gained per six months.[1]

The average infant gains 14½ pounds in the first year of life, *equaling the gain of the next five years combined.* LIQUID OLAC supplies generous protein during this period of active growth. Note: Chart is a composite of weight gains for boys and girls. Peak of adolescent rise for girls will usually occur earlier than that of boys.

[1]Lynch, H. D., et al: The "Submarginal" Child, GP, Vol. XI, No. 1, January, 1955. Chart based on figure from Dr. Harold C. Stuart, Harvard School of Public Health, Boston, Mass.

the MEAD formula family for routine feeding





services for you

Mead offers many services which will help you with infant feeding. Ask your Mead Representative.

easy to prepare

LIQUID OLAC is easily prepared simply by adding 1 part LIQUID OLAC to 1 part water for a formula supplying 20 calories per fluid ounce.

MEAD SYMBOL OF SERVICE IN MEDICINE

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Since the ulcer patient usually can not get away from it all, prescribe MONODRAL with MEBARAL to more effectively isolate the ulcer from the patient physiologically.

MONODRAL with MEBARAL controls hyperacidity by a proved superior antisecretory action.

Controls hyperirritability and hypermotility of the upper gastro-intestinal tract, relieves pylorospasm.

Induces a serenity of mind without affecting mental alertness, softens the emotional impact of environmental stimuli.

Controls the psychovisceral component of peptic ulcer; lessens gastro-intestinal tension by diminishing reflex motor irritability.

MONODRAL with MEBARAL Tablets, 1 or 2 tablets three or four times daily; each tablet containing 5 mg. MONODRAL bromide and 32 mg. MEBARAL. Bottles of 100 tablets.

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LABORATORIES
New York 18, N.Y. • Windsor, Ont.

MONODRAL® with MEBARAL®

FOR COMPLETE CONTROL

of peptic ulcer

Monodral (brand of penthienate) and Mebaral (brand of mephobarbital), trademarks reg. U.S. Pat. Off.

—Concluded from page 57a

B-vitamins; (D) protein and fats, supplemented with B-vitamins, restricted in carbohydrates, with no sodium chloride restriction.

6. In advanced Laennec's cirrhosis of the liver, the characteristic alteration of the serum protein is: (A) fall in serum albumin, rise in serum globulins; (B) fall in serum albumin and globulins; (C) fall in serum albumin, normal serum globulins; (D) rise in serum albumins, fall in serum globulins.

7. Portacaval shunts are of greatest therapeutic value in relief of: (A) ascites; (B) gastro-intestinal bleeding from portal hypertension; (C) jaundice; (D) cavernous transformation of the portal vein.

8. Of the following disturbances the one most rarely associated with hepatic insufficiency is: (A) salt-water retention; (B) hyperuricemia; (B) hypoalbuminemia; (D) hypo-cholesteremia.

9. Bilirubinate stones occur most frequently in: (A) obese middle-aged women; (B) typhoid convalescents; (C) spherocytic anemia patients; (D) familial hyper-bilirubinemia patients.

10. A 17-year-old male is involved in a bus accident. Besides multiple contusions and abrasions, his chief injury is found to have been sustained on the right lower leg. Here the entire thickness of the skin and subcutaneous tissue has been torn away from its attachment just below the knee and rolled down like a stocking to the ankle by an avulsion injury. At the ankle, the skin is attached all around. There are no fractures nor other soft tissue injuries. The treatment of choice at debridement should be to: (A) detach the avulsed skin and cover the denuded area with split skin grafts; (B) detach and replace subcutaneous tissue without removing it; (C) leave the skin attached at the ankle, unfold and replace it with sutures; (D) detach the entire skin, scrape off all subcutaneous tissue and fat and replace it as a graft.

11. Azotemia in glomerulonephritis is predominantly a consequence of: (A) renal edema; (B) decreased maximal tubular excretory capacity; (C) reduction of glomerular filtration; (D) tubular back diffusion.

12. The volume of extracellular water may be measured by determining the dilution of a known amount of injected: (A) sodium thiosulfate; (B) Evans Blue; (C) antipyrine; (D) deuterium oxide.

13. Hematuria and costovertebral angle pain are prominent features of: (A) chronic diffuse glomerulonephritis; (B) polycystic disease of the kidneys; (C) cystitis; (D) prostatitis.

14. The presence of left axis deviation in an otherwise unremarkable electrocardiogram is: (A) always indicative of left heart enlargement; (B) diagnostic of myocardial disease; (C) always found in hypertensive heart disease; (D) without significance.

15. The one of the following conditions in which cyanosis is not usually due to arterial blood oxygen unsaturation is: (A) chronic cor pulmonale; (B) tetralogy of Fallot; (C) congestive heart failure due to arteriosclerotic heart disease; (D) Eisenmenger's complex.

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USE 'POLYSPORIN'®

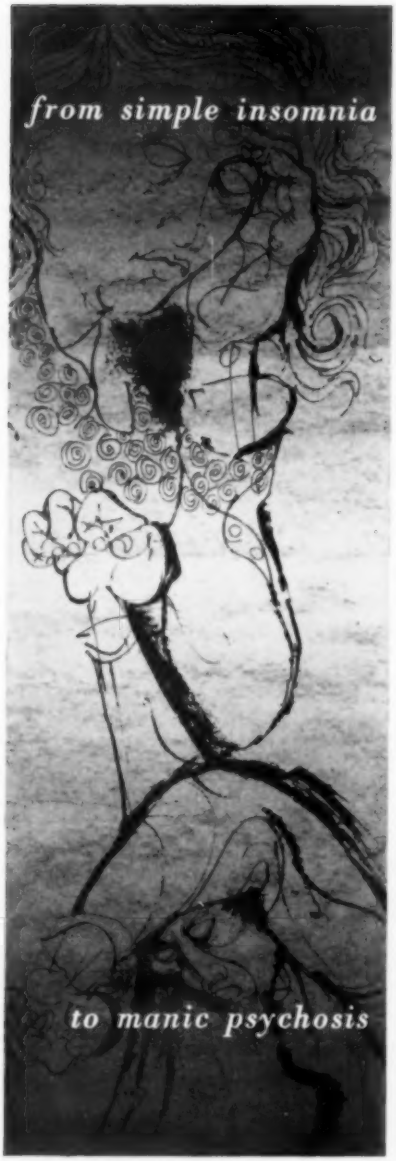
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POLYMYXIN B—BACITRACIN OINTMENT

to insure broad-spectrum therapy with minimum allergenicity

For topical use: in ½ oz. and 1 oz. tubes.
For ophthalmic use: in ⅛ oz. tubes.

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N. Y.



whenever a patient
needs prompt
effective sedation . . .

short-acting

Nembutal®

(Pentobarbital, Abbott)

You can achieve any degree of sedation using short-acting Nembutal—usually with only about one-half the dosage of many other barbiturates. This means:

. . . less drug to be inactivated,
. . . shorter duration of effect,
. . . little tendency toward hangover.

And, of course, with short-acting Nembutal you are using a thoroughly studied sedative-hypnotic with a wide margin of safety. Hundreds of clinical reports, more than 26 years of wide medical use stand behind your Nembutal prescription.

Next time a sedative or hypnotic is indicated, try short-acting Nembutal . . . a standard in barbiturate therapy.

Abbott



a "judicious combination..."

for antiarthritic therapy

SALCORT*

That cortisone and the salicylates have a complementary action has been well established.[1-5] In rheumatic conditions, functional improvement and a sense of feeling well are noted early. No withdrawal reactions have been reported.

One clinician states: "By a judicious combination of the two agents . . . it has been possible to bring about a much more favorable reaction in arthritis than with either alone. Salicylate potentiates the greatly reduced amount of cortisone present so that its full effect is brought out without evoking undesirable side reactions."[1]

INDICATIONS:

Rheumatoid arthritis . . . Rheumatoid spondylitis . . . Rheumatic fever . . . Bursitis . . . Still's disease . . . Neuromuscular affections

EACH TABLET CONTAINS:

Cortisone acetate	2.5 mg.
Sodium salicylate	0.3 Gm.
Aluminum hydroxide gel, dried .	0.12 Gm.
Calcium ascorbate	60 mg.
(equivalent to 50 mg. ascorbic acid)	
Calcium carbonate	60 mg.

* U.S. Pat. 2,691,662

1. Busse, E.A.: Treatment of Rheumatoid Arthritis by a Combination of Cortisone and Salicylates. Clinical Med. 11:1105 (Nov., 1955).
2. Roskam, J., VanCawenberge, H.: Abst. in J.A.M.A., 151:248 (1953).
3. Coventry, M.D.: Proc. Staff Meet., Mayo Clinic, 29:60 (1954).
4. Holt, K.S., et al.: Lancet, 2:1144 (1954).
5. Spies, T.D., et al.: J.A.M.A., 159:645 (Oct. 15, 1955).

BRISTOL, TENNESSEE
NEW YORK
KANSAS CITY
SAN FRANCISCO

The S. E. Massengill company



other oral dosage forms for allergic needs

CHLOR-TRIMETON Tablets, 4 mg.

CHLOR-TRIMETON Syrup, 2 mg./per teaspoonful (4 cc.).

CHLOR-TRIMETON® maleate, brand of chlorprophenpyridamine maleate.

REPETABS,® Repeat Action Tablets.



standard
for therapeutic
convenience

daylong relief from a single dose

CHLOR-TRIMETON REPETABS 8 and 12 mg.
PRANTAL REPETABS 100 mg.
GYNETONE REPETABS ".02" and ".04"

CHLOR-TRIMETON® Maleate, brand of chlorprophenpyridamine maleate.
PRANTAL® Methylsulfate, brand of diphemanil methylsulfate.
GYNETONE,® combined estrogen-androgen.
REPETABS,® Repeat Action Tablets.

M-J-62-166



EURAX®
(crotamiton GEIGY)
cream and lotion

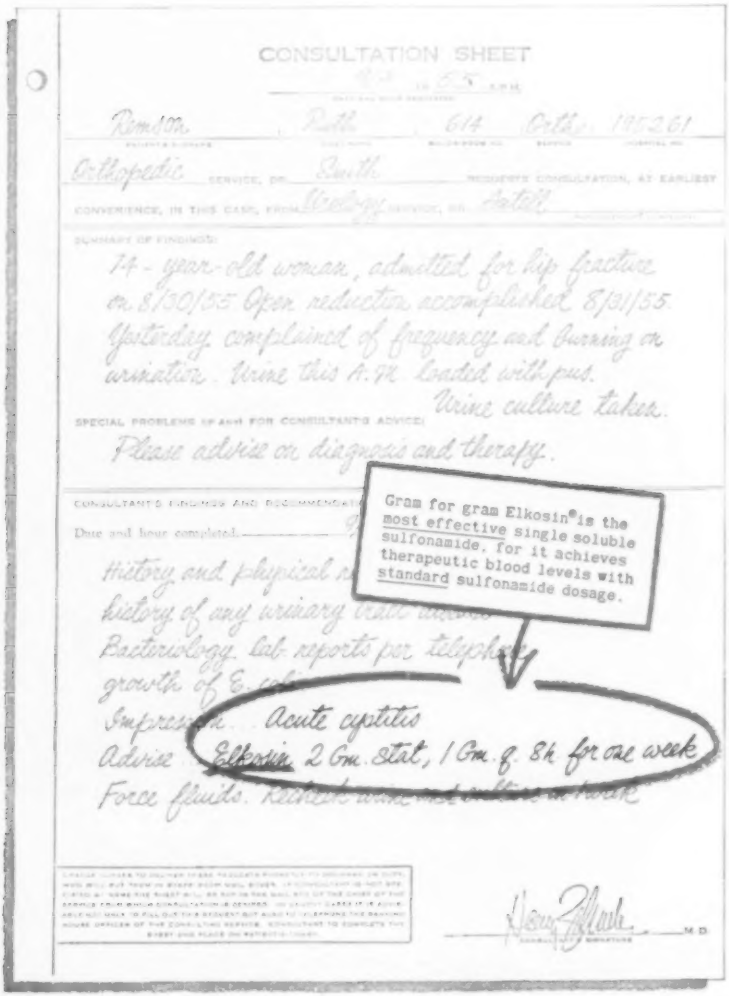
GEIGY

Whether the itch is due to sunburn, irritating plant exudations or prickly heat, EURAX provides relief in minutes that lasts for hours ...long enough usually for your patient to sleep the night through.

Nonirritating and nontoxic, EURAX may be used with safety no matter how extensive the lesion. And because it is nonstaining and nongreasy, EURAX can be used on exposed parts without fear of detection.

EURAX® (crotamiton GEIGY) 10% Cream and Lotion.

GEIGY PHARMACEUTICALS DIVISION OF GEIGY CHEMICAL CORPORATION
220 CHURCH STREET, NEW YORK 13, N.Y.



ELKOSIN® (sulfisomidine CIBA)

CIBA Summit, N. J.

MODERN MEDICINALS

These brief resumes of essential information on the newer medicinals, which are not yet listed in the various reference books, can be pasted on file cards and a record kept. This file can be kept by the physician for ready reference.

Atarax Tablets, J. B. Roerig & Co., Chicago 11, Illinois. Small, sugar-coated tablets containing hydroxyzine dihydrochloride in two potencies, 10 mg. (orange) and 25 mg. (green). Induces peace of mind quickly in the normal (non-psychotic) person under emotional stress. Indicated in conditions such as tension, neurosis, fatigue states, pruritus, headache, dysmenorrhea, senile excitation, peptic ulcer and functional G. I. spasm. In children, for anxiety, night terror and hyperactivity. **Dose:** As indicated by physician. **Sup:** In bottles of 100 tablets.

Bacimycin with Hydrocortisone 1% Ointment, Walker Laboratories, Inc., Mount Vernon, New York. A combination of bacitracin, neomycin sulfate and hydrocortisone in a petrolatum base. For topical and ophthalmic use. Indicated in relief of itching and inflammatory or allergic skin disturbances and for ocular infections of bacterial and allergic origin. **Dose:** Topical — a small amount to the affected area with gentle massaging two or three times daily or as indicated. Ocular—apply to margin of lower lid once or twice daily. In either case the frequency of application may be reduced gradually. **Sup:** 1/8 oz. tube with applicator tip.

Cathomycin, Sharp & Dohme, Division of Merck & Co., Inc., Philadelphia 1, Pennsylvania 1, Pennsylvania. A new antibiotic in capsule form for treating infections caused by certain bacteria that have become resistant to other antibiotics. Particularly effective against Staphylococci, the bacteria that cause most skin infections. Indicated for cellulitis, carbuncles, skin abscesses, varicose ulcer and pneumonia. Valuable as an adjunct in surgery. **Dose:** As directed by physician. **Sup:** Bottles of 16.

Co-Deltra & Co-Hydrelta, Sharp & Dohme, Inc., Division of Merck & Co., Inc., Philadelphia 1, Pennsylvania. New potencies, each prednisone or prednisolone, 2.5 mg. Provide a higher antacid to steroid ratio. **Dose:** As indicated by physician. **Sup:** Bottles of 30.

E. Coli, Lederle Laboratories, Division American Cyanamid Co., Pearl River, New York. A new diagnostic agent which identifies Escherichia coli antigens in freshly isolated living cultures.

Cordex Forte, Tablets, The Upjohn Co., Kalamazoo 99, Michigan. Light lemon yellow tablets providing primarily prednisolone, with activity en-

—Continued on page 72a

ACHROMYCIN®

Tetracycline *Lederle*

in the treatment of

infections in surgery

The prevention and control of cellulitis, abscess formation, and generalized sepsis has become commonplace technique in surgery since ACHROMYCIN has been available. Leading investigators have documented such findings in the literature.

For example, Albertson and Trout[1] have reported successful results with tetracycline (ACHROMYCIN) in diverticulitis, gangrene of the gall bladder, tubo-ovarian abscess, and retropharyngeal abscess. Prigot and his associates[2] used tetracycline in successfully treating patients with subcutaneous abscesses, cellulitis, carbuncles, infected lacerations, and other conditions.

As a prophylactic and as a therapeutic, ACHROMYCIN has shown its great worth to surgeons, as well as to internists, obstetricians, and physicians in every branch of medicine. This modern antibiotic offers rapid diffusion and penetration, quick development of effective blood levels, prompt control over a wide range of organisms, minimal side effects. There are 21 dosage forms to suit every need, every patient, including

ACHROMYCIN SF

ACHROMYCIN with STRESS FORMULA VITAMINS. Broad-range antibiotic action to fight infection; important vitamins to help speed normal recovery. In *dry-filled, sealed* capsules for rapid and complete absorption, elimination of aftertaste.



[1]Albertson, H. A. and Trout, H. H., Jr.; *Antibiotics Annual* 1954-55, Medical Encyclopedia, Inc., New York, N. Y., 1955, pp. 599-602.

[2]Prigot, A.; Whitaker, J. C.; Shidlovsky, B. A., and Marmell, M.: *ibid*, pp. 603-607.

LEDERLE LABORATORIES DIVISION

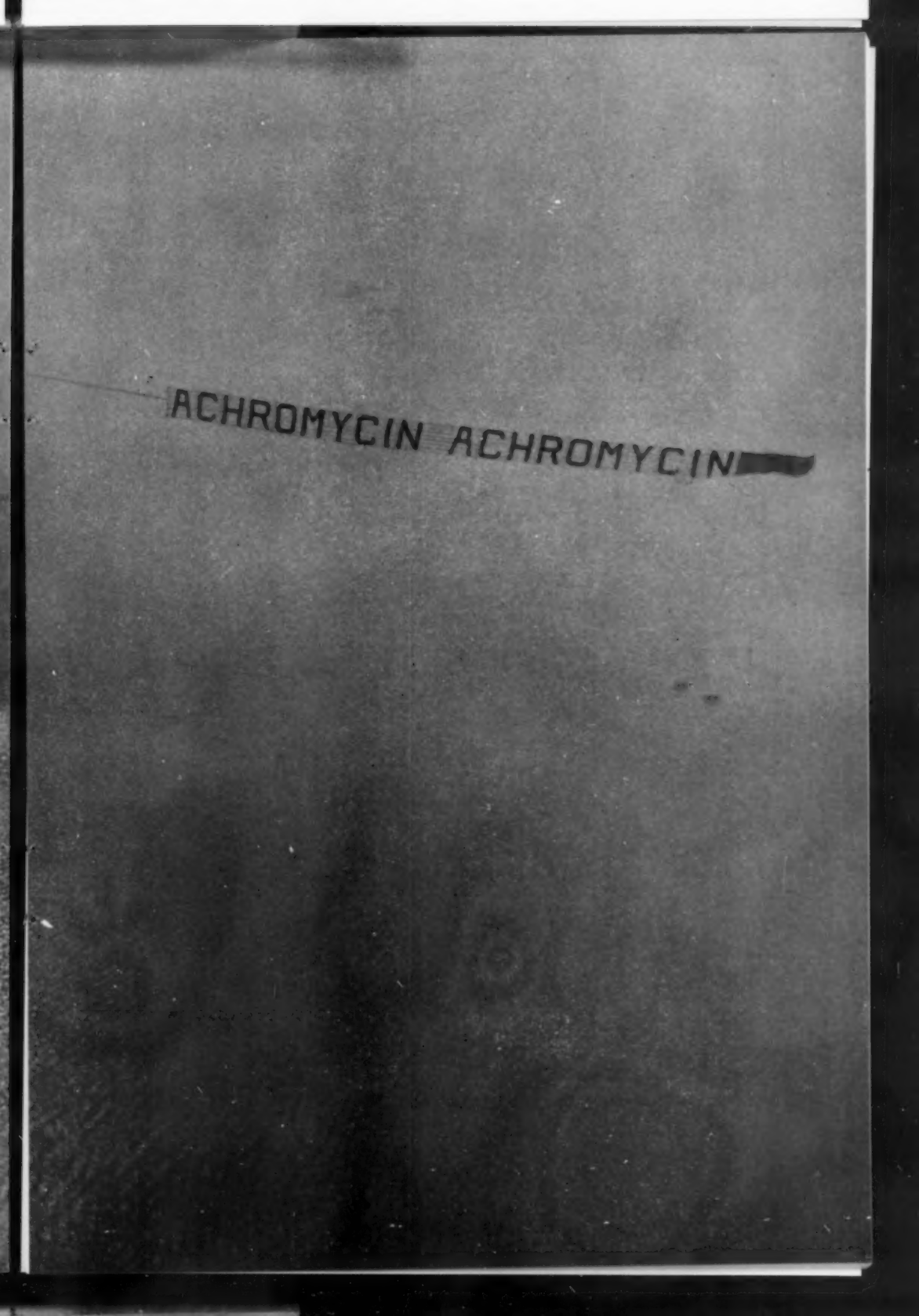
AMERICAN CYANAMID COMPANY

PEARL RIVER, NEW YORK

*REG. U.S. PAT. OFF.

PHOTO DATA: AERIAL CAMERA WITH K-2 FILTER AT DUSK, F.11, 4/100 SEC., FAST PAN FILM




ACHROMYCIN ACHROMYCIN

—Continued from page 69a

hanced by salicylate. The same size as Cordex Tablets but containing three times as much prednisolone, 1.5 mg., with 300 mg. (5 grs.) of acetylsalicylic acid. Particulary useful for maintenance therapy in rheumatoid arthritis and for the treatment of severe conditions affecting the musculoskeletal system. **Dose:** Usual dosage is 1 to 2 tablets four times daily, immediately after meals and at bedtime. Should be adjusted as indicated by changes in the activity of the disease and the patient's general status. **Sup:** Bottles of 100 and 500 scored tablets.

Cortisporin Optic Drops Sterile, Burroughs Wellcome & Co., Tuckahoe 7, New York. A sterile, slightly acid, aqueous solution, each cc. containing: Aerosporin sulfate polymyxin B sulfate 10,000 units, neomycin 5 mg., hydrocortisone 10 mg. Indicated in otitis externa, aural inflammation, otitis media, when the ear drum is perforated. **Dose:** Three to four drops are instilled 3 or 4 times daily. If preferred a gauze or wick saturated with the drops may be placed in the aural canal. **Sup:** Bottles of 5 cc. with sterile dropper.

Delalutin, E. R. Squibb & Sons, Division of Olin Mathieson Chemical Corp., New York 22, New York. A long acting injectable progestational preparation, each cc. providing 125 mg. of 17-alpha-hydroxyprogesterone caproate as a solution in 70 per cent sesame oil with 30 per cent benzyl benzoate. Indicated in the treatment of many pregnancy and menstrual disorders. **Dose:** As indicated by physician. **Sup:** 2 and 10 cc. vials.

Duo-C.V.P., U. S. Vitamin Corp., New York 17, New York. Double strength capsules providing 200 mg. water-soluble, citrus bioflavonoid compound with 200 mg. ascorbic acid. Indicated in the prevention and treatment of abnormal capillary permeability. **Dose:** 1 to 3 capsules daily. **Sup:** Bottles of 50, 100, 500 and 1,000.

Fentropine, Carroll Dunham Smith Pharmacal Co., New Brunswick, New Jersey. A tablet containing 60 mg. profenil citrate, 2.5 mg. homatropine methylbromide. Tablet also available with the addition of 7.5 butabarbital. Indicated for antispasmodic action in gastrointestinal tract, ureter and bladder and in conjunction with morphine, for treatment of smooth muscle spasm. Tablet with butabarbital provides sedative action as well as combating spasm. **Dose:** One to two tablets taken one to three times per day. **Sup:** Bottles of 100.

Geralin, Walker Laboratories, Inc., Mount Vernon, New York. A dietary aid for better nutrition and for health and vigor for the middle aged and older group. **Dose:** As indicated by physician. **Sup:** Bottles of 100.

Meti-Derm Ointment with Neomycin, Schering Corp., Bloomfield, New Jersey. Contains prednisolone, free alcohol (Meticortelone) 5 mg., neomycin sulfate 5 mg., in a white petrolatum base with methylparaben and butylparaben as additional ingredients. Indicated for a wide range of allergic and inflammatory skin conditions, especially when secondary infection is present or anticipated. **Dose:** Rub a small quantity gently on the affected areas three or four times daily. **Sup:** 10 gm. tube.

Mysteclin Half Strength, E.R.Squibb & Sons, Division of Olin Mathieson

—Continued on page 76a



safe and sure laxation

Agoral relieves constipation gently, without strain. A dose taken at bedtime almost always produces results the next morning. A patient taking Agoral can follow a normal, daily routine because Agoral does not provoke the sudden urge induced by strong laxatives.

Excellent in pregnancy, Agoral's action is gentle and positive, an important consideration especially during the last trimester of pregnancy. Agoral is also well suited in all other cases of acute and chronic constipation, where straining or purges are to be avoided: in children, postoperatively, and in bedridden and older people.

Agoral mixes readily and uniformly with the intestinal contents during its passage through the tract. It aids in retention of fluid in the fecal column, affords lubrication and provides mild peristaltic stimulation. Agoral causes no sudden, uncomfortable griping, distention or stomach distress. Used for prompt relief, it is not habit forming and may be prescribed for protracted periods.

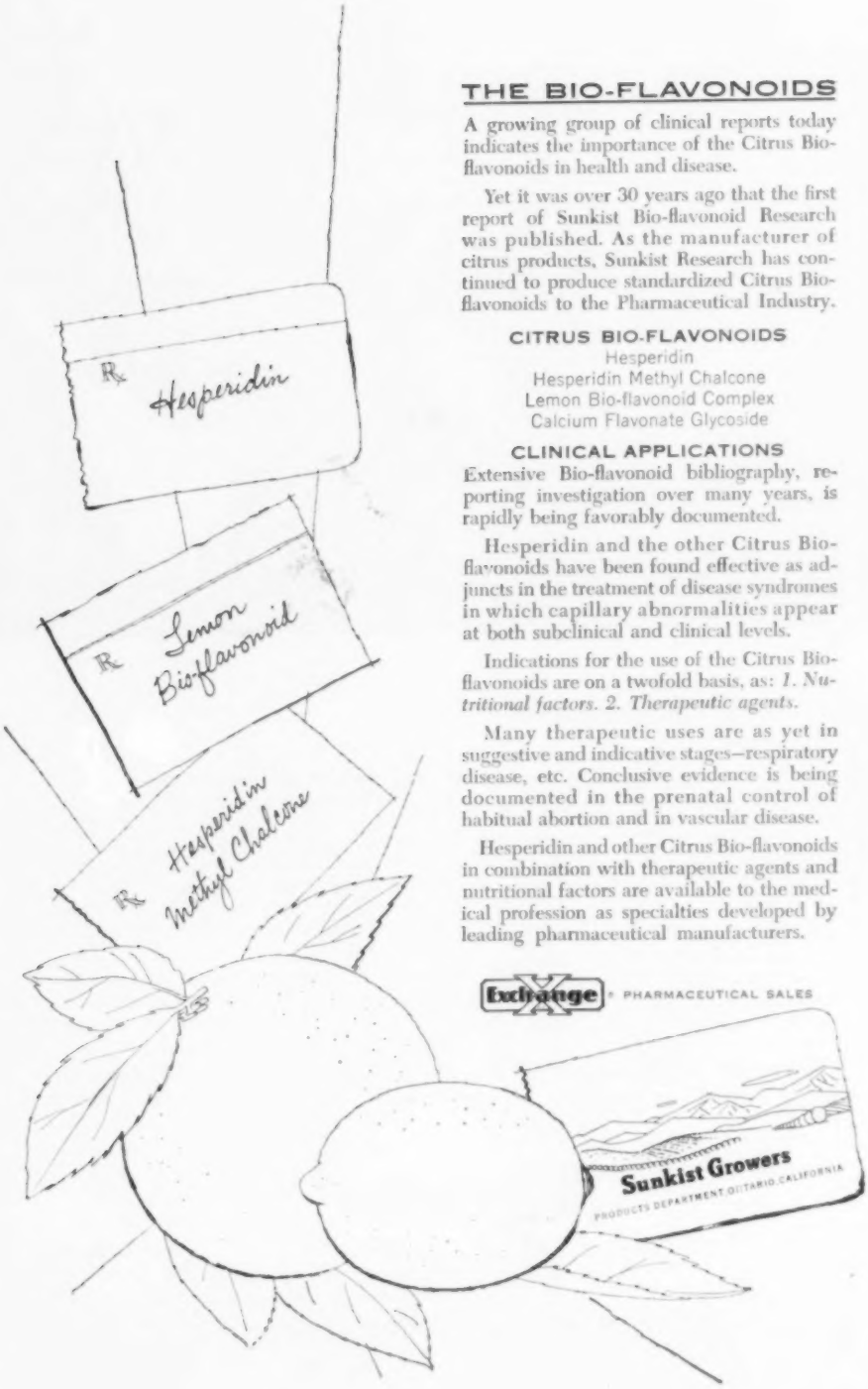
Dosage: At bedtime, ½ to 1 tablespoonful. Contraindications: symptoms of appendicitis; idiosyncrasy to phenolphthalein.

Supplied: Bottles of 6, 10 and 16 fl. oz.; and as Agoral Plain (without phenolphthalein), bottles of 6 and 16 fl. oz.

Agoral® *the laxative to meet all needs*

mineral oil emulsion with phenolphthalein

WARNER-CHILCOTT



THE BIO-FLAVONOIDS

A growing group of clinical reports today indicates the importance of the Citrus Bio-flavonoids in health and disease.

Yet it was over 30 years ago that the first report of Sunkist Bio-flavonoid Research was published. As the manufacturer of citrus products, Sunkist Research has continued to produce standardized Citrus Bio-flavonoids to the Pharmaceutical Industry.

CITRUS BIO-FLAVONOIDS

Hesperidin
Hesperidin Methyl Chalcone
Lemon Bio-flavonoid Complex
Calcium Flavonate Glycoside

CLINICAL APPLICATIONS

Extensive Bio-flavonoid bibliography, reporting investigation over many years, is rapidly being favorably documented.

Hesperidin and the other Citrus Bio-flavonoids have been found effective as adjuncts in the treatment of disease syndromes in which capillary abnormalities appear at both subclinical and clinical levels.

Indications for the use of the Citrus Bio-flavonoids are on a twofold basis, as: *1. Nutritional factors. 2. Therapeutic agents.*

Many therapeutic uses are as yet in suggestive and indicative stages—respiratory disease, etc. Conclusive evidence is being documented in the prenatal control of habitual abortion and in vascular disease.

Hesperidin and other Citrus Bio-flavonoids in combination with therapeutic agents and nutritional factors are available to the medical profession as specialties developed by leading pharmaceutical manufacturers.

Exchange PHARMACEUTICAL SALES

in persistent or recurrent urinary tract infections of children... failure to treat promptly and adequately may produce serious sequelae which can shadow and shorten the patient's life

Average daily dosage for children: 5 to 7 mg./Kg. in 4 divided doses.
Tablets: 50 and 100 mg.
Oral Suspension: 5 mg. per cc.



"Nitrofurantoin N.N.R. (Furadantin) is an effective urinary antibacterial agent in children."[1]

Furadantin®

BRAND OF NITROFURANTOIN

"...one of the most effective single agents available at this time."[2]

1. Johnson, S. H., III, and Marshall, M., Jr.: A.M.A. Am. J. Dis. Child. 89:199, 1955. 2. Brailey, R. S., Holt, S. H., and Siegel, D.: J. Michigan M. Soc. 54:805, 1955.

NITROFURANS—A NEW CLASS OF ANTIMICROBIALS

Eaton LABORATORIES

NEITHER ANTIBIOTICS NOR SULFAS

—Continued from page 72a

Chemical Corp., New York 22, New York. A new strength in capsule form containing 125 mg. tetracycline and 125,000 units mycostatin. Designed to provide broad spectrum antibiotic therapy plus prophylaxis against monilial super-infection. Dose: As directed by physician. **Sup:** Bottles of 16 and 100.

Neuro-Centrine, Bristol Laboratories Inc., New York 20, New York. A sugar-coated tablet containing phenobarbital 15.00 mg. (1/4 gr.) Centrine Hydrogen Sulfate (brand of aminopentamide) 0.25 mg., and reserpine 0.05 mg. Indicated in the relief of anxiety states and emotional tension. Recommended for relief of symptoms associated with functional disorders of the gastrointestinal and cardiovascular systems. **Dose:** One or two tablets 3 or 4 times daily; however, dosage depends on the individual response as well as the severity of the condition. **Sup:** Bottles of 100 and 1,000.

Nilevar, G. D. Searle & Co., Chicago 80, Illinois. A brand of norethandrolone for the rebuilding of human tissue. Beneficial uses of Nilevar are: 1. Assisting recovery following major surgery; 2. Assisting in preparation of patients for major surgery when they are not in satisfactory condition to undergo surgical procedure; 3. Improving the nutritional state of patients with severe illnesses such as polio; 4. As an aid in arresting the wasting of patients with diseases such

—Continued on page 79a

Metamine®

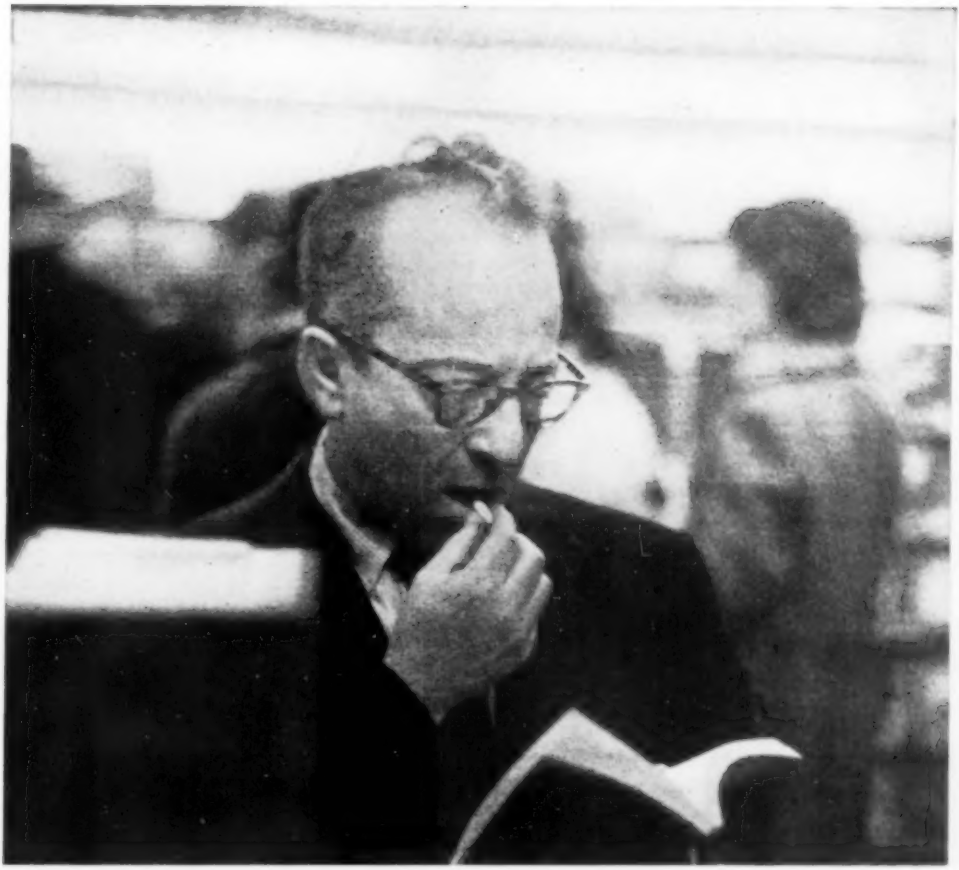
triethanolamine trinitrate biphosphate, LEEMING, tablets 2 mg. Bottles of 50 and 500
Dose: 1 or 2 tablets after each meal and at bedtime.

smallest dose lowest toxicity unique amino nitrate

protects 8 out of 10 patients against angina pectoris



Thos. Leeming & Co., Inc., 155 East 44th Street, New York 17, N. Y.



Parenteral-like androgen effect without injection

Metandren® Linguets®

Patients with diminished androgenic activity improve satisfactorily on parenteral androgen therapy — but may feel "tied" to your hypodermic needle.

Fully as good results can be obtained with Metandren Linguets . . . for they are promptly absorbed buccally or sublingually into the systemic circulation, thus by-passing early inactivation in the liver and in the digestive tract. Twice as potent as orally ingested methyltestosterone, Metandren Linguets provide an effective, economical and convenient form of androgen therapy.

Metandren® (methyltestosterone U.S.P. CIBA) Linguets® (tablets for mucosal absorption CIBA), 5 mg. (white, scored) and 10 mg. (yellow, scored).

BF12754

CIBA
SUMMIT, N. J.

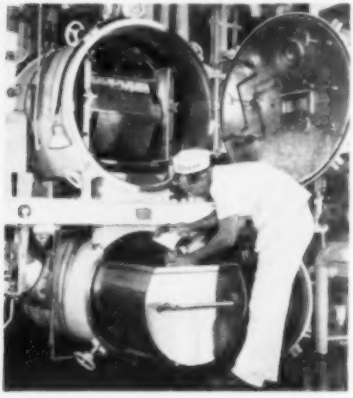
Report | from Carnation Research Laboratory

Van Nuys, California



Nutritional Research

The never-ending effort to reach even higher standards for Carnation products includes both biological and analytical research. In the latter phase, all necessary, definitive equipment is available at Carnation Research Laboratory. Here, for example, a staff member determines vitamin B content of a Carnation product, using a Beckman Quartz Spectrophotometer.



Product Stability Research

Carnation research also assures *retention* of optimum food values under maximum adverse conditions. Among other facilities, a diurnal cycling cabinet permits staff members to study Carnation products under extremes of temperature and humidity.

Mass Production Research

Carnation Research Laboratory includes a complete pilot plant staffed by competent technicians. Mass production problems, if any exist, are detected and further research instituted.

Carnation Protects Your Recommendation with Continuous 5-Phase Research:

Carnation Research Laboratory; Carnation Farms; Carnation Plant Laboratories; Carnation Central Product Control Laboratory; Carnation-sponsored University & Association Research.



"from Contented Cows"

—Continued from page 76a

as cancer, leukemia, Hodgkin's disease and other lingering illnesses: 5. Helping in the strengthening of premature infants. **Dose:** Adult — Three to five tablets (30 to 50 mg.) daily, but up to 100 mg. may be administered. Children—1 to 1.5 kilogram of body weight daily. Individual dosages depend on need and response to therapy. **Sup:** Bottles of 50.

Pabirin AC, Smith-Dorsey, Division of The Wander Co., Lincoln 1, Nebraska. A hard gelatin capsule containing: hydrocortisone 2.5 mg., acetylsalicylic acid 300 mg., para-aminobenzoic acid 300 mg., ascorbic acid 50 mg. Indicated as an anti-arthritic and an anti-rheumatic. **Dose:** Initially 1 or 2 capsules q.i.d. after meals and at bedtime. When dosage is reduced, it should be done gradually. **Sup:** Bottles of 50.

Rhulispray, Lederle Laboratories, Division American Cyanamid Co., Pearl River, New York. A spray-on preparation containing: zirconium oxide 1.000%, menthol .009%, camphor .098%, calamine .980%, benzocaine .980% and isopropyl alcohol 9.500%. For the relief of itching and pain due to ivy and oak poisoning, hives, etc. **Dose:** Spray directly on the affected areas. **Sup:** 3-oz. aerosol dispenser.

Sparine Injection, Wyeth Laboratories, Philadelphia 1, Pennsylvania. An injectable preparation containing 50 mg. promazine HCl per cc. Indicated for the acutely agitated patient, acute mental disturbances of alcoholism, various psychoses, withdrawal symptoms of drug addiction. **Dose:** As directed by physician. **Sup:** Vials of 2cc. and 10 cc.

—Concluded on page 81a





Newest in vitamin therapy

Vitamins as nature intended . . .

HOMAGENETS©

THE HOMOGENIZED VITAMINS

For the first time, all the advantages of multivitamin drops are available in a tablet. By a unique process, the vitamins are homogenized, then fused into a solid, highly palatable form.

As a result of this minute subdivision, the vitamins are absorbed and utilized much more efficiently than those in the usual compressed tablet or elastic capsule.

- Better absorbed and utilized
- Pleasant, candy-like flavor
- No regurgitation, no "fishy burp"
- May be chewed, swallowed, or dissolved in the mouth

Three formulas:

Prenatal
Pediatric
Therapeutic

The S. E. MASSENGILL COMPANY
Bristol, Tennessee
New York • Kansas City • San Francisco

*U.S. Patent 2676136

—Concluded from page 79a

Steclin Syrup, E. R. Squibb & Sons, Division of Olin-Mathieson Chemical Corp., New York 22, New York. A sweetened, unflavored suspension form of tetracycline. Intended particularly for administration to children though it may be given to anyone who has difficulty in taking capsules or tablets of tetracycline. Useful in the oral treatment of many bacterial infections as well as diseases caused by certain large viruses, rickettsiae and protozoa. Especially useful in treating mixed infections. **Dose:** As directed by physician. **Sup:** 2 ounce bottles.

Terrabon, Pfizer Laboratories, Division of Charles Pfizer & Co., Brooklyn 6, New York. The broad-spectrum antibiotic Terramycin in a new, peach flavored, homogenized mixture formulated in ready-mixed form. Each 5 cc. teaspoonful contains 125 mg. of Terramycin. Indicated in the treatment of infections caused by a wide variety of gram-positive and gram-negative bacteria. **Dose:** As directed by physician. **Sup:** 2 ounce and one pint bottles.

Tri-Synar Plus, The Armour Laboratories, Division of Armour & Co., Chicago 9, Illinois. Light lavender tablets containing: powdered extract of belladonna 4.1 mg., phenyltoloxamine 20 mg., ethaverine hydrochloride 12.5 mg., phenobarbital 2.025 mg., butabarbital sodium 2.025 mg., pentabarbitol sodium 6.075 mg., secobarbital sodium 6.075 mg. Indicated for control of tension peaks. **Dose:** One tablet three or four times a day. In more severe cases, two tablets three times a day may be used. **Sup:** Bottles of 100.

your allergy patients need a lift

Plimasin®

(tripelennamine hydrochloride and methyl-phenidylacetate hydrochloride CIBA



Worn out with sneezing or scratching, your allergic patients need relief from the depression which is often brought on by their allergy symptoms.

You can give them a lift with Plimasin, a combination of a proved antihistamine and Ritalin—a new, mild psychomotor stimulant. Plimasin, while effectively relieving the symptoms of allergy, counteracts depression as well.

Dosage: **1 or 2 tablets every 4 to 6 hours if necessary.**

Tablets **(light blue, coated), each containing 25 mg. Pyribenzamine® hydrochloride (tripelennamine hydrochloride CIBA) and 5 mg. Ritalin® hydrochloride (methylphenidylacetate hydrochloride CIBA).**

CIBA SUMMIT, N.J.

Increase in Antibiotic Resistant Organisms A Problem in Urinary Tract Infections

Soluble, Single Sulfonamide a Logical First Choice of Therapy

The action of broad spectrum antibiotics against a wide variety of organisms unfortunately affects many nonpathogenic and actually useful bacteria. As a result, undesirable changes in urinary tract bacterial flora and survival of resistant strains occur. For this reason the trend has swung to sulfonamide therapy as the safer and more effective therapy in most cases.

Today, only 25 per cent of staphylococcic infections respond to penicillin as against 90 per cent ten years ago.[1] Gram-negative bacilli not affected by penicillin account for some 85 per cent of urinary infections. The incidence of *B. Proteus* and *Pseudomonas* infections has increased from 28 per cent in the preantibiotic period to 48 per cent in the antibiotic age of 1952-1953.[2]

A recent editorial in the Journal of the American Medical Association stated that sulfonamides should be tried first in urinary tract infections.[3] They are considered antibacterial agents of choice because of their potent bacteriostatic activity, low toxicity, economy, and infrequency with which resistant strains emerge.

"Thiosulfil," brand of sulfamethizole, single sulfonamide specific for urinary tract infection, is widely prescribed because of the following important characteristics:

Effective Antibacterial Action: "Thiosulfil" has an excellent antibacterial spectrum against the usual urinary tract pathogens.

Low Acetylation — High Solubility: A mere 5 to 10 per cent is acetylated in the body. This means that from 90 to 95 per cent is available in the free active form for effective antibacterial action at the site of infection. "Thiosulfil," both in the free and acetylated form, is highly soluble in urine over a wide pH range thus reducing the possibility of side effects and making alkalinization unnecessary.

Rapid Absorption — Rapid Excretion: A 2 Gm. oral dose produces a maximal blood level (6 mg. per hundred milliliters) in two hours; this is reduced to half in another two to three hours, and within 24 hours "Thiosulfil" is fully excreted.

These outstanding qualities of "Thiosulfil" have prompted physicians to say: ". . . 'Thiosulfil' is an effective chemotherapeutic agent in urinary tract infections . . ."[4] Commenting on the safety of "Thiosulfil," investigators report no cases of exanthemata, urticaria, emesis, fever . . . ;[5] no skin rash . . . ;[4] virtual absence of untoward effects,[4,6] and freedom from crystalluria and hematuria.[5]

Recommended Dosages: 0.5 Gm. four times daily. The pediatric dosage is 30 to 45 mg. daily per pound of body weight. If voiding occurs during the night, an extra half-dose should be given. It is unnecessary to force fluids.

Availability: Tablets, 0.25 Gm. (bottles of 100 and 1,000). Suspension, 0.25 Gm. per 5 cc. (bottles of 4 and 16 fluidounces).

Bibliography on request.

AYERST LABORATORIES
New York, N. Y. • Montreal, Canada

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Advertisement

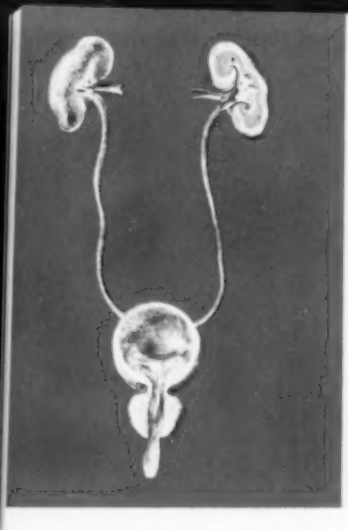


in pyelitis and pyelonephritis

"THIOSULFIL"

single sulfonamide specifically
for urinary tract infections





suitability depends on solubility in urinary tract infections

The exceptionally high degree of solubility of "Thiosulfil" permits bacteriostatic concentrations to be rapidly achieved at the site of infection for effective action with minimal side effects.

In addition, the risk of cross-sensitization to other sulfonamides is greatly minimized; alkalinization is not required; fluids may be restricted rather than forced.

direct / effective

"THIOSULFIL"®

Brand of Sulfamethizole

Average dosage: Adults, 0.5 Gm. five or six times daily. Infants and children, 30-45 mg. per pound of body weight per day. For more complete dosage information as well as supporting clinical data, see facing page.

Supplied: Tablets, 0.25 Gm., scored. Bottles of 100 and 1,000. Suspension, 0.25 Gm. per 5 cc. (teaspoonful). Bottles of 4 and 16 fluidounces.

Ayerst Laboratories • New York, N. Y. • Montreal, Canada 5619



A SMILE AGAIN IN JUST 12 DAYS WITH TIME-SAVING TRIVA

the MODERN treatment for all 3 types of vaginitis

TRIVA effectively annihilates vaginal microorganisms, restores mucosal integrity and accelerates healing for rapid recovery.

Non-irritant, non-toxic, non-staining, TRIVA is a safe vaginal douche... even during pregnancy. Effective in any pH medium. Most cases of trichomonal, monilial and non-specific vaginitis become asymptomatic and organism free in 6 to 12 days. For complete data see Physicians' Desk Reference, 1956, page 427.

AVAILABLE AT ALL PHARMACIES, *in convenient packages of 24 individual 3 Gm. packets, each containing 35% Alkyl Aryl sulfonate, (surface-active, germicidal and detergent), 0.33% Disodium ethylene bis-iminodiacetate (chelating agent), 53% Sodium sulfate, 2% Oxyquinoline sulfate (bactericide, protozoacide) and 9.67% dispersant.*

Full treatment package and literature on request.

BOYLE

BOYLE & COMPANY · Bell Gardens, California



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The Common Fat Intolerance Problem Of Infancy

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The most common problems of early infancy coming to the attention of the practitioner dealing with children are those concerning feeding. No attempt will be made to describe the multiple causes of colic, one of the commonest of the problems, but some discussion is due on a very common cause, that of fat intolerance.

The usual pediatric textbook either fails to mention the problem of fat intolerance or lists it without further discussion as one of the conditions leading to noninfectious diarrhea. Possibly the textbook author thinks of it as such a common problem, about which everyone knows, that he is unwilling to give precious space for discussion. Whatever the cause, little is said of it in the modern press, and it is often overlooked by the practitioner who fumbles from one formula to another attempting to find the magic combination that will make the sad infant happy.

From my files I have taken 60 unselected but typical cases of this disorder and made an effort to determine patterns of symptons and signs common to the group.

Considerable similarity of complaints is detailed by the mother and usually includes a telephone call to the physician concerning the loose multiple stools. With these symptoms of diarrhea one must first rule out those of an infectious nature, and, when satisfied that the problem is not of a toxic or parenteral infection but rather of a simple food indiscretion, a few questions will serve to bring out the main characteristics of the stool. In only the rare case will it be necessary to do microscopic or culture slides, although the research-minded purist will probably maintain that each of the stools should be cultured to rule out bacterial enteritis. True, they should if the stool does not promptly revert to normal on a fat poor diet. However, conversely, I have yet to see the bacterial enteritis that so promptly responds to the simple procedure of removal of half the fat from the formula. Allergies to cow's milk are more difficult to rule out by questioning as the symptoms of intolerance to fat

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and intolerance to whole milk are often similar or identical. I usually give a clinical trial on a low fat diet before removing milk from the diet entirely.

Keeping in mind that the protein indiscretion stool is dark, alkaline and rarely causes excoriation of the buttocks, and the carbohydrate indiscretion stool may be greenish, watery and usually causes perianal excoriation, we contrast these with the fat indiscretion stool.

Clinical Manifestations

Stools —Diarrhea or multiple stools were the complaint of 43 of the 60 infants. These were variously described as "foamy," like "scrambled egg," bulky, sour smelling, or explosive, and 21 of the mothers complained that the infant had "lots of gas" (flatus), 7 had blood in the stool and 2 others screamed with each stool passage. The rectum was excoriated in 15.

Occasionally these symptoms were mild, but the reverse was often true as in one case of a newborn infant who arrived home from the hospital with diarrhea. His stools were described as "almost constant" and watery with much gas. The infant screamed with stool passage, and flecks of bright red blood were occasionally present. For two days he vomited following each feeding, but this stopped with the giving of a "small white pill." In spite of three formula changes the diarrhea continued, and, when I saw him at 5½ weeks of age, there was complaint of recent weight loss and rash of the buttocks and that he was "very unhappy." Vomiting had been prominent for two days in spite of the "white pill." Physical examination revealed poor tissue turgor, dehydration, and a distressed appearance with marked perianal and buttock excoriations. A reexamination five days later following a shift to a half-skimmed milk formula showed a happy infant who had gained 1½ pounds, had pasty stools, and was described by the mother as one who "sleeps and plays and hardly ever cries."

Colic —Belly-ache with stiffening of the legs or doubling up of the abdomen was a feature in 10, while 13 mothers complained that the infant cried "almost constantly" or "screamed all night"; 8 were described as "very fussy" or "unhappy."

As an example of this group I will cite the case of the infant who was seen at 1½ months of age because of bouts of colicky pain characterized by straightening out the legs and holding of the breath. On a commercial milk preparation she had bloody stools, which was corrected by a change to another commercial preparation, but the colicky pains continued, and for two days she had refused all feedings. I put her on an adequate modified evaporated milk formula with an antispasmodic, which she accepted, but two days later she developed frequent, foamy, profuse, and explosive stools. When seen one week after a change to a fat-poor formula, she was progressing well and continued to do so.

Appetite —Two infants refused the bottle outright, another had inadequate intake, and 9 had weight loss or no gain. The general pattern was that of excessive hunger. Eighteen mothers complained that their babies "wanted to eat all the time." The intake was not excessive in most cases as frequent small feedings were the rule.

Pylorospasm —Seven of the group were persistent "spitters," while 7 occasionally vomited. Of the 3 with projectile vomiting, one simulated pylorospasm to the point that x-ray studies

were carried out. This child started vomiting an average of one feeding daily soon after birth and persisted in this pattern until the age of 5½ months when she started vomiting following each feeding. This occurred anywhere from immediately to two hours postfeeding and was unchanged by antispasmodics. A shift from evaporated milk formula to whole milk did not change the pattern, nor did a further change to soy bean preparation combined with an antihistamine. After a gastrointestinal series, study revealed no pathologic condition; feeding of skimmed milk was immediately successful in preventing vomiting.

Rash —Although not as frequently manifested as in cow's milk allergies, 3 infants of the series had rashes limited to the face, while one was generalized. Each cleared immediately when changed to a fat-poor formula.

Treatment—I have not found it necessary in my practice to prescribe expensive low fat commercial formulas, but rather I have tried to use the common products found in the family refrigerator. Removing approximately half of the cream content of the milk is usually all that is necessary, and, if the results are not dramatic and cessation of symptoms immediate, the diagnosis is in question. If the infant lives on the farm and no cream separator is available, I have the mother put the milk in a quart milk bottle and, after the cream has risen to the top, half is poured out for use elsewhere, and the remainder is shaken well and carbohydrate added. In our own hospital nursery our basic fat-poor formula is prepared by combining 1 quart homogenized milk with 1 quart skimmed milk. It is now simple to buy a 2% homogenized milk at most groceries, which is similar to our old ½ skimmed milk preparations. Since we are removing an excessive number of calories by removing half the fat, these are replaced by large carbohydrate additions. I use 6, 7, or 8 tablespoons of Dextri-Maltose no. 1® per quart of formula after explaining my reasons for these large additions, as most parents are familiar with the fact that increasing the carbohydrate content will often cause more frequent stools but do not know that excessive amounts of carbohydrate may have an opposite effect. Otherwise, the mother is horrified at the thought of giving this amount of carbohydrates to an infant who is already having multiple loose stools and will not co-operate. Sufficient water (usually ½ cup) is added to put the carbohydrate in solution.

If the symptoms are acute, I often add an antispasmodic to be administered at least 10 minutes before the feeding is offered and often put 2 teaspoons of Kaopectate® in each feeding when the diarrhea is excessive. These medications can usually be discontinued after two to three days.

Comment —No attempt will be made to scientifically analyze why excessive fat causes the manifestation herein described.

It is evident that several factors are prominent. The condition is more commonly found in the artificially fed, as my series shows that 54 were originally on modified evaporated milk or various commercially prepared formulas, as compared with 6 on breast milk.

The next most evident fact is that the condition occurs early in infancy, my series showing the following distribution of onset:

Newborn	8
1-2 weeks	6
2-3 weeks	9
3-4 weeks	15
4-5 weeks	8
6-8 weeks	10
2-3 months	4

The sex distribution was divided at 34 boys and 26 girls.

It is not uncommon for more than one sibling in a family to have similar complaints and usually the mother calls by phone to report with considerable satisfaction that the second or third child had findings like those in the first child and a change to the same type formula was wholly successful. The series quoted here contains two brother-sister combinations (one of twins).

Although I know that a disproportionately large number of these infants come from allergic family backgrounds, and many of the group have gone on to show food and inhalant allergies, my statistics on that factor have not been kept over a sufficient number of years to be quoted here. Two of the group were allergic to all forms of Vitamin D available for trial including the water soluble, nonoily preparations.

Summary

Formula fed infants who have multiple, foamy, bulky, explosive stools during the first few weeks, especially if they have perianal excoriation, and who are unhappy, have excessive crying, and take frequent small feedings, should be investigated for fat intolerance. Treatment is discussed.

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Page 27a

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MEDICAL TIMES

Child Psychiatry and the General Practitioner

This summarization attempts to cover the essential information on the subject, including therapy, and is designed as a time-saving refresher for the busy practitioner.

Today's challenge in the field of American Medicine for the family doctor lies not in the crowded hospitals of the land. Rather it is at his door, in his crowded waiting-room, in the pathetic seeking of parents for help with disturbed children presented in medical offices.[1, 2, 3]

These disturbed children should not be abandoned with the old statement that "they will grow out of it." Early recognition of abnormal behavior patterns may make treatment spectacularly successful, and rapid. Early cases often do not require referral to the specialist.[3b]

Amatruda[3] poses the following, provocatively: although studies on American children reveal that they are better nourished, healthier, and have greater life-expectancy, what has happened to their mental equipment, their emotional stability, and their stamina under stress and strain? What about the many neurotics, psychopaths, mental deficients, and the physico-social handicapped: where are they coming from to fill our courts, jails, hospitals, and asylums?

It is felt by many workers in the field[5, 6, 7, 8, 9] that while we must consider heredity, the resulting genetic complex differs from the parents. It is then molded and remarkably modified by the environmental forces and pressures, from the moment of conception on.

Etiology 1. Inheritance of defective germ-plasm has been emphasized again and again by Walter C. Alvarez as the main cause of disturbed behavior when the personality is exposed to pressure. Many others[9, 11, 13] do not attempt to minimize the importance of Heredity. The physical stuffs of life form the base and structure of the child.

However, jurists, sociologists, educators, penal administrators, psychologists, the military, as well as many doctors, agree that while "you cannot make a silk purse out of a sow's ear" perhaps you can make a good pigskin wallet! And the latter has its uses as well as the former!

The endopsychic forces and development are still not well understood. Little may be done about them, until Mankind applies the same principles to breeding of humans as in Veterinary Genetics.

2. *Disease and trauma* modify brain and nerve. Such factors as the severe fevers, encephalitis lethargica, early

syphilis and tuberculosis, rheumatic fever in its protean manifestations[13, 62, 85] etc., cannot be discounted. Nor can birth injury, accidental chronic ingestion of poisons, and many types of postnatal injuries that the infant and child may be exposed to be neglected.

3. Yet, the more subtle, intangible *Environmental Forces and Pressures* constantly operating on the growing child cause tremendous modifications in developement, for good or ill. The potentialities become apparent, retarded or suppressed, or perverted.

In an excellent study of 300 children, considered mentally deficient, Hans Neuer stated that less than 1.0% could be considered "inherited," with 39.3% supposedly "organic" in background. Over 50%, expecially those under six years, gave only the picture of marked deprivation, frustration, or over-stimulation: . . . "a child will exhibit a stunted intelligence if its constitutional capacity to respond has no chance to operate". Neuer feels that the doctor who meets the problem child with signs of mental deficiency often contents himself with a neurological referral and requests for I. Q. testing ("the much worshipped I. Q. . . .") and induces neglect of any further behavior analysis. Once a child scores a low I. Q., it is usually classified as feeble-minded without further attempts "to apply other personality studies."

Diagnosis Alpert[2] recognizes that neurosis in children is usually determined by complaints of parents, rather than by objective criteria. Developmental approach to recognition has been stated in the works of Buhler, Gesell, Kulmann et al. He feels that the physician should be aware of subnormal mental development, as well as the various stages of emotional growth, and their disturbances: the oral, anal, phallic, latency and genital phases.

Allen[1] points out the growing awareness and diagnostic acumen of the family doctor. Amatruda[3] emphasizes that growth disturbances are found by adequate study and relationship in the child of age, growth, physical and neurological inventory, the personality structure and its stability, and the parent-child interactions. Most of these determinations may be easily made by the doctor in the home, and in his office. The motor, language, adaptive, personal and social behaviors are seen most *au naturel* by the family physician.

A keen, honest, objective appraisal of the child at play with toys, others, interacting with parents or the doctor, often brightens the prognosis more than any clinically-foreign setup may indicate.

Anderson[4, 5] feels that only 25% of children referred to him are treated by him: whereas prior work by him was with 75% of referrals. Most problems require insight by the general practitioner into parent-child anxieties, fears or guilts to diagnose and treat early, lightly-impressed neuroses.

The persistence and carry-over of infantile behavior, needs and satisfactions may be recognized in older children quite easily,[6] e.g. thumb-sucking, bedwetting, nail-biting, masturbation, defensive tics, exhibitionism. However, an adequate history (assayed in relation to parental anxiety), neurological survey, and other related, necessary medical investigations should not be neglected.

Most diagnoses are related to, and complicated by, physical, familial or social handicaps: [7,8,9] it is usually a

neurosis which may cause regression or aggression, with the behavior infantile or asocial or antisocial and anti-learning.

The cases of deterring, cerebral or cerebellar damage are few in number in comparison to the vast number of emotionally-handicapped children: crippled just as badly as if they were physically or mentally retarded in growth or development. The retardation, growth-lack, block in emotional maturation becomes readily apparent to the trained clinical sensibilities of the Family Doctor. He has become aware of the shifting pathology of disease processes in American children. He is aware that there are fewer cases exhibiting the effects of famine, pestilence, and lack of shelter.

The keys to diagnosis, therefore, lie in the physician's observations of the environmental factors (the home, the family, the playground, the school, the economic and social and cultural pressures), and the child's behavior patterns as they resemble or differ from the broad norm of his group in age, sex, and pattern-demands of his peers.[6,7,10]

Methodology[12, 13, 14, 15] Actually, the family physician has always been aware, if after trial and error elimination of other factors, when the major problem in a child's disturbed manifestations is lying in a disturbance of his emotional health. It may be in the imbalance of the triad necessary for health, welfare and safety of the organism: physical, mental and emotional.

Systematic examination needs the old standbys of an adequate history: (1) Birth and physical growth (2) Development to the time of examination (3) Past illness, sequelae, complications (4) Thorough family history (5) Present history of the parental complaints, anxieties, fears in relation to the child's behavior.

Systematic examination requires a complete physical examination. It is negligent to assume that previous medical care of a child excludes the necessity in the presence of an abnormal pattern of behavior. The examination should include

(1) present height and weight (2) size of hands, feet, breasts and genitalia (especially in pubertal and adolescent boys and girls) (3) the condition of the skin, especially the face (4) the distribution of fat and hair (5) the neurologic and cranial structures, by testing whether the various sensibilities and motor abilities are intact: does the child see, hear, taste, smell, and feel things within the normal range? . . . does he coordinate muscle movements, move his bowels, pass his urine, sweat, salivate, digest within the normal range? The so-called "nervous child"[16] may have a serious physical basis for his actions.

Systematic examination calls for a careful, patient listening to the parental listings of complaints about the child. Many a General Practitioner feels he does not have enough time for this.[18, 19, 20, 21] If he does not, then quacks and charlatans—or another medic will. No office assistant can take over this careful, clinical, selective listening and observation of the parents . . . and often, other relatives of the child: grandparents, brothers, sisters, uncles, and well-meaning aunts!

Symptomatology Kanner[33,34,35,36,37] in his able reviews of psychiatric progress illustrates many of the easily recognizable signs and symptoms of emo-

tional disturbances. These are not too difficult to perceive.

It must be constantly remembered that the evaluation of emotionally-maladjusted children must be done in distinct relationship to a knowledge of the wide range of the norm in the various periods of growth and development for each age and sex grouping.[40,41,45,47] It may be normal for a child of six months to have enuresis, but not for a sixteen-year old! The six-to-nine year old may suck his thumb sporadically when he is tired, sleepy, bored, deprived, or frustrated with an attempted effort beyond his skills; but the sixteen-to-nineteen year old should not under similar circumstances.

Children respond to various demands on them by family and environment (such as waiting for feedings or clothing changes, bladder and bowel control, etc.) by crying, limb or body or head banging, rocking or other movements, thumb-sucking, nail-biting, hair or blanket pulling or eating, various muscle "tics", vomiting, breath-holding, wheezing . . . and whatnot! These are, or are not, normal for the child's needs depending on whether the responses elicit changes around him that give satisfaction. The prolongation of infantile behavior may depend, further, on whether there is "secondary gain" where a later growth pattern does not seem to give early satisfaction. Then attempts are made to revert to earlier behaviors that did bring forth results![32, 46, 55, 56, 57]

Hulse and Lowinger[26,27,28] in an excellent series of articles discuss the negativistic attitude and behavior of the two-to-six-year-old, necessary to growth. The disapproving parent or guardian or teacher may not permit further development because no substitute satisfactions or approval come.

The family doctor must always keep in mind that fear is usually a normal, protective mechanism—as are hate, anger, hostility, fighting, and even flight. These become phobic, when they are emotions and behavior out of proportion to the stimuli that provoke these responses. A phobia is usually a symbol for a transfer from another situation too difficult or too unbearable for a child to handle directly.[40,41,42]

Any behavior unacceptable to the family, the community, or society, which may be open acts (that the rest of us have suppressed for continued approval) that the child cannot control or forego, becomes abnormal for his social and cultural group with which he must live.[47]

Psychosis in Children Psychosis becomes exceedingly difficult to evaluate in children.[44] This is because (1) there are no accepted, uniform criteria for this diagnosis (2) adult signs and symptoms are looked for: children manifest alterations in the behavior of growth and development, (3) it is difficult to establish communication in the very young because of the lack of intellectual maturation. Lurie[44] and others[53] feel that children over 13 should not be considered with the juvenile group, but with the adults, if pubertal changes have taken place.

In Cleveland,[44] it has been shown that about 2% of disturbed children at the Child Guidance Bureau revealed evidence of psychotic behavior patterns.

Prophylaxis [42,45,46,66] et al. It is difficult and foolish to attempt to be dogmatic about principles, practices, policies and procedures in dealing with the ineluctable evanescent changes in

children's problems and their responses. Only certain general statements can be made for a preventive, medical programming in child psychiatry.

It is of the greatest import to the future of the health, welfare and safety of children that the Family Doctor present through the use of these points his own authoritative assurance to parents, educators, guidance workers, police, courts, nurseries, playground directors, etc. that children grow up straighter, truer, stronger if his advice is understood and followed:

(a) Mild hostilities and agressions to authority occur as a natural outcome to the usual, social training restrictions. These need to be handled firmly-but not harshly, nor with unjust punishments or deprivations.

(b) It is better that a child exhibit his difficulties in adjustment to the demands of those about him for family and social living. These can then be controlled. Repressions induced by excessive employment of shame and guilt cannot be seen and fester like an internal boil. They rarely resolve . . . and if they do, they leave scars that cause emotional scars and distortions of psychic structures.

(c) If we understand the *deviants* from the wide range of normal growth and development behavioral patterns, then we can find substitute satisfactions and give approval to these *deviants*. *Deviants* are unhappy children who have lost their way in the maze of "growing up".

(d) Avoidance of early overtraining will prevent later pathological pathways from being followed. Overcorrection indefinitely prolonged causes deformity, distortion, delinquency.

(e) Do not expect familial or adult conformities. The necessities for conformity and approval in the school child is with the peers, not with adults. In the very young, nervous tics develop. In the older child, open rebellion or hostility may take almost any form including anti-social, destructive acts.[62]

(f) Where social acceptance and approval has not been forthcoming for a child who is handicapped (fancied or real), foster adequate relationships by invitations in whatever subtle manner is necessary for boys and girls to meals and excursions.

Often transferring disciplinary measures from one parental or school authority to another more acceptable to the child may help.

(g) Sudden changes in behavior patterns brought to the family doctor by an anxious parent as a complaint should not be pooh-poohed, or derided. Assurance should only come after adequate history and examination.

Sudden sleeplessness in infancy, separation anxiety, enuresis, among others, need all to be appraised in relation to undesirable changes in the environment. These are tension reactions to threats to the child's security, approval, or love.

Management Most authorities[48, 49, 50, 64, 70, 55c] agree that the major difficulty in the emotional growth and development of children should rest in the hands of the capable, interested, trained General Practitioner. There is no other therapeutic manager in as close rapport with the family as he is.

It is now common medical knowledge that increasing anxiety about an unbearable problem that is not permitted to rise to conscious levels seeks outlet in other ways. Repressed anxiety may cause otherwise unrelated restlessness, fears, sweats, rashes, tachycardia, chok-

ing sensations, vomiting, diarrheas, a fickle voracious appetite or its direct opposite, anorexia. A multitude of other somatic effects in any of the organic systems may confuse the management of "the sick child."

Management may entail Reik's "listening with the third ear" to catch the subtle nuances. It requires the doctor's understanding attention to the recital of the child's, as well as the parents', viewpoints.

Management also requires the redirection of parental and environmental rejections, pressures, and inferferences with a child's particular phase of development. These occur in the precocious type of growth, as well as the delayed or retarded ones. Parent or school is not easy to reorient to a child's needs. Guilt is often the underlay of opposition. Guilt needs to be allayed by the diplomacy of the family or general practitioner.

As Jensen[30] so ably pointed out, the cooperation of the busy surgeon needs to be enlisted by the child's physician.

Children do not tolerate nor understand nor adjust to a needed operation as well as adults. They have had no part in making the decision. They react to parental fears and anxieties about surgery.

Therefore, it has been suggested that (1) selective surgery should be postponed until the child is over five (2) where surgery is necessary, the doctor should instill calm and confidence in and by the parents by adequate explanations* (3) reorientation in the attitude of the child to his father and mother, to his brothers and sisters, and others of importance to him, may be needed (4) the child should be encouraged to know as much about the operation as his age-judgments and understandings can handle (5) the child should be encouraged to share his feelings, and "to talk it out" (this does not take as much time as it sounds away from the busy physician) (6) pre-and-post-operative treatment should be made as painless as possible, with as little display of frightening apparatus as can be managed (7) a familiar person should be with the child on reacting from anesthesia (8) all unusual psychiatric reactions or complications should be carefully considered and handled, as any somatic ones.

The limitations of general care for the seriously-disturbed child needs to be thoroughly understood. While home care may be inadequate, only the finest type of a residential treatment center should be used for the management of the pre-psychotic or psychotic child. This needs to be coupled with the fullest parent-participation. Further, the earliest return to the home that is clinically feasible is needed.

Treatment and the "Disturbed" Child[60, 61, 69, 70] Restlessness, insomnia, aimless movements may be related to a system's dysfunctions, minor intoxications, or foci of chronic infections. These may further the vicious cycle and augumentation of fatigue and tensions. They need to be treated, along with psychotherapy.[59]

System-dysfunctions are often spastic in their manifestations. Belladona and the many atropine-derivatives may be exhibited. The synthetic antispasmodics may be explored for their usefulness. These are often coupled with small amounts of a barbiturate to enhance their quieting reactions.

Possibilities of minor intoxications, e.g., lead paint, food contaminants, toxic vapors, and foci of infections should be

investigated and removed.

The allergic child is often a restricted child. Wherever possible, diagnostic measures and treatment of allergies should be managed so as to avoid unnecessary limitations or stigmata. Otherwise, there is piling of resentment and delinquent actions on subconscious hostility.

Any chronic physical disorder, defect or disease has a disturbing effect on the emotional growth and development. In guiding or counselling the youngster and parents, it is wise to alleviate physical disorders, remedy anatomical or physiological defects, and to heal concomitant disease. Given therapy to the clinically-whole child, the natural processes of repair and growth are remarkable in their recuperative powers!

It has been pointed out by Schneider[19] that 53% of children, brought in to court on delinquency charges by police or civil complaint, showed one or more concomitant problems of physical disorders.

No child should be socially or clinically judged or evaluated without a thorough physical examination.

Many of these children with psychosomatic signs of skin, respiratory or gastro-intestinal allergies show marked improvement when antihistamines are empirically combined with fractional doses of the particularly-suited barbiturate.. Many ethical drug houses make up satisfactory combinations of these. Where antispasmodic action is also desired, any of the following may prove useful such as a belladonna and barbiturate, or mephenesin and barbiturate combination.

The Rauwolfia Serpentina group are often effective in mitigating restlessness, noisiness, temper tantrums and have been tried[55c] successfully for superficial therapy.

Hostility, resentments, destructiveness and other antisocial disturbances have been ameliorated to a considerable degree by the use of the newer tranquillizers. The dosage should be adequately high to start, and then reduced to the satisfactory maintenance levels. In young children, Thorazine-Hydrochloride may be given as the syrup, as well as the tablet, in 10 mgm. doses up to q.i.d. The meprobamates (Miltown or Equanil) may be given from 100 to 400 mgm. and up to q.i.d.

For the fatigued or depressed child, Meretran is suitable in doses from ¼ to 1 mgm, t.i.d. However, it should not be used where anxiety, agitation or tension exists. It could, although, be used, if one wishes to, as a combination of 1 mgm. with Reserpine 0.25 mgm, in those states.

The advent of these newer drugs, ibid: Chlorpromazine, Meprobamate, Alpha-Benzhydrol, has opened up a new chemotherapeutic approach to the management of the disturbed child by the General Practitioner.

A new "lissive" (or a drug which causes spasmolysis of skeletal muscle without interference with normal function) has been added to this armamentarium, called Flexin (zoxazolamine.) This drug in tablet form has an action up to six hours. It can be given anywhere up to q.i.d. in conjunction with a tranquillizer. It should prove useful in the tension, as well as the spastic, states.

Conclusion

This opportunity to be of service to the unhappy family with the unhappy child should be seized by

the Family Doctor. It should not be missed.

Along with "T.L.C.—or tender, loving care," as stated by Swartout[63] which should be liberally prescribed by the physician—and also used by him with the child—the outlook has brightened considerably for early treatment by him.

However, at this point, a word of caution is advisable.

Evidence points to the release, blocking, or mitigation through these helpful, pharmaceutical preparations of many of the anxieties, fears, resentments, hostilities, tensions, insecurities of children. Whatever insight, understanding, and change of attitudes these children need to develop to handle the ever-changing problems of growing-up in the modern world must come with further help.

It must not be forgotten that this further help must come from the General Practitioner to the disturbed child through his parents. His parents need guidance to effect the changes in the child's environment that the doctor deems wise to maintain balance and tranquility on his pathways and journey on through further growth and development.

Only this way can the child be assisted to go on to emotional maturity with as little scarring, distortion and deformity of his personality as may be possible, in line with his heritage.

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CHILD PSYCHIATRY AND THE GENERAL PRACTITIONER 1944-1954

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AN EXERCISE IN DIAGNOSIS— THE CASE REPORTS

IN addition to our regular quota of original article, "Refresher" articles and departments, this issue, and every issue, contains selected Case Reports. You will find them on pages 760-762. We recommend these studies as interesting and stimulating.

Psychiatry in General Practice

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The general physician is too often heard bemoaning that he has become a referral agent, that his sole role has become filtering and sorting patients and sending them to the appropriate specialists. Yet, he frequently disregards a good opportunity to build a profitable segment of practice while rendering an important medical service to his patients.

There exists an acute shortage of psychiatric help in most of the United States —for many reasons: (1) The awakening of the public in the past half century to the contributions that psychiatry can make to the solution of their problems has caused a fantastic multiplication of the number of persons seeking such aid. There has been no such increase in the number of trained psychiatrists. (2) Many physicians do not like psychiatry and are personally disturbed by handling patients with psychiatric problems. These physicians tend to "unload" their psychiatric patients as expeditiously as possible. (3) Psychiatrists, in all earnestness and honesty, have "oversold" psychiatry, e.g. there is much talk about the sexual psychopath, the drug addict, the alcoholic, and similar problem patients, and there exists an erroneous concept that the psychiatrist possesses an easy and adequate solution to these refractory difficulties.

While the general physician feels very secure in the perimeters of surgery, obstetrics, pediatrics, urology, or other medical specialty, he oftentimes manifests his personal insecurity in coping with the psychoneurotic, and especially the psychotic patient.

Too many otherwise very competent physicians who know such scientific factors as the complicated details of biochemistry, the use of the proper antibiotic drugs, metabolite balance, and the details of electrocardiography, still believe that psychiatry is a matter of "common sense." They manifest irritation, unhappiness, and tension to the psychiatric patient. They continue with their archaic attitude that the patient is recalcitrant and perverse, and that he could act in another way if he but would. Their therapy consists of admonishing the patient and wagging a finger under the patient's nose.

The number of these patients who recount having been told by their physician "you're just nervous," or "snap

out of it," or "it's all up to you," are eloquent testimony to the rejection they receive too often at the hands of the family physician.

Conversely, there is a belief (even among physicians!) that all that need be done to solve the perplexities of our most neurotic patients is to find the emotionally traumatic incident in childhood whence their instabilities flow! Nothing could be further from the truth!

Every competent theory of medical practice must hold that the general practitioner is capable of properly treating all minor difficulties, ailments, and pathologic states, regardless of the subspecialty embraced. Differences of opinion are based on the word "minor."

Most busy specialists are convinced they are burdened with "over-referrals," a conviction that patients are referred whose problems could quite adequately have been handled by the referring physician. The specialist who has time unfilled wonders at the temerity of the general practitioner in some of the things he does!

Sometimes the overselling of the public on the omniscience of the specialist is responsible, and the patient requests, even insists, on such referral. Occasionally, the general practitioner feels insecure and requests reassurance in his mode of handling. Sometimes less laudable reasons such as the patient's financial status might be the reason for referral. The doctor may refer patients who he believes will pay the specialist—and not pay the family doctor. (sic!)

Analysis of the composition of a general practice has yielded some startling results. There is a philosophy of medicine which holds that the doctor "rarely cures, sometimes alleviates, but always comforts."

There is an aphoristic reiteration of the fact that every successful physician-patient relationship is based upon a satisfactory rapport and transference; or in yet simpler terms, the patient must have confidence in his doctor.

The magic of the profoundly respected "old family doc" was certainly not based on his profound knowledge of medical science. The "old doc's" genius lay rather in his intuitive psychiatric insight, in his easy ability to relax the patient, and to convince the patient that all would be well.

The fact that cultist practitioners do so well financially, and sometimes therapeutically, is evidence that they may have more comprehension, sympathy, tolerance, and even understanding of some of this patient group than many physicians. The cultist groups take many more post-graduate courses in "psychological medicine" than do our physicians. Experience tells us that post-graduate courses in psychiatry are usually attended only by psychiatrists, whereas post-graduate courses in cardiology or gastroenterology usually attract far more general practitioners than specialists.

The analysis of 2,500 consecutive patients coming to the office of the general practitioner was carried out for the purpose of determining what percentage of these patients had psychiatric problems. In this analysis the following categories were established: (a) Patients with problems essentially physical where medical science possesses specific therapy, e.g., the extraction of a foreign body from the eye or a splinter from the finger, the setting of a simple fracture, the removal of an acute appendix, or the injection of morphine to relieve kidney colic, are considered instances in

this category, as was the prescription of Prostigmin ® for myasthenia gravis, or quinine for malaria.

Ere the criticism begins we readily concede that in these instances too, an adequate rapport is of tremendous assistance, but essentially we feel that the patient would probably benefit more from the physical assistance than from the rapport, and could probably get well if no positive transference did exist.

(b) Patients whose problems are essentially physical but for which the therapy is not specific and often includes the use of psychic factors as part of a therapeutic attack. Examples of this might be acute coryza, gastric ulcer, mucous colitis, paroxysmal tachycardia, and similar patterns.

(c) Those patients whose conditions are primarily psychic but may involve some organic features. In this group we have the patient with vague muscular aches and pains, precordial distress, headache, similar complaints, where study could reveal no specific organic etiology.

(d) Those conditions which are primarily psychic and where physical pathology is not anticipated. Here, the patient's primary complaints are worries, anxieties, tension "butterflies" in the stomach, "wanting something to strengthen my nerves," and the like.

The data used in this report were collected from ten general practitioners each of whom gathered 250 consecutive cases coming into his office. Each was asked to divide these patients into the above described categories.

(1) Primarily organic. (2) Organic with psychiatric colorations. (3) Psychiatric with organic colorations. (4) Primarily psychiatric.

It is emphasized that the category status cannot be appraised by the diagnosis alone; what was requested was that the treating doctor evaluate the

Study of 2500 Cases

Physician	Category I Primarily Organic	Category II Organic-Psychic	Category III Psychic-Organic	Category IV Psychic
A	67	35	81	67
B	79	43	72	56
C	85	76	48	41
D	63	66	85	36
E	52	58	56	84
F	50	45	63	92
G	83	99	40	28
H	45	57	58	90
I	42	64	67	77
J	68	50	62	70
Totals	634	593	632	641
Total %	25+%	24+%	25+%	25+%

classification of his therapeutic attack rather than the nosologic disease entity, e.g. obesity might be essentially organic if such obesity could be corrected with thyroid medication. Obesity might well be truly psychiatric secondary to a neurotic bulemia and be treated in the office of the general practitioner by encouragement, reassurance, and exhortation—between these lie the admixtures!

It is our feeling that only the treating physician is truly able to appraise whether his therapy was directed primarily from an organic or psychic approach. The example of obesity was deliberately chosen as one of the more difficult decisions for appraisal. It was, of course, less difficult in appraising such conditions as dietary regulations for new born infants, acute appendixes or anxiety states over impending crises.

We recognize that some classifications were perforce arbitrary, but feel that we rest on firm logical ground since the appraiser of the character of the therapy was the therapist. Again we will also readily concede that no physician-patient relationship can be purely organic—yet, for purposes of appraisal, some standards must be set up.

A further evaluation attempted was the relationship between the financial success of the various practitioners and the percentage of "psychiatry" used in their practices. Succinctly, the relationship was a direct and positive one. Conversely, the technical organic knowledge bore only a haphazard relationship to the physician's financial success.

These doctors were all practicing the same type of general practice in the same type of community (urban-suburban) and could (and did to some extent) draw on the same patient population.

The evaluation of the financial status was made on net incomes from practice. The evaluation of the technical knowledge of organic medicine was obtained by asking the appraisal of their colleagues anent the comparative ability of each in relationship to the other doctors in the group and in the community. Interestingly, the most prosperous was the doctor who was rated second lowest in the group in organic medicine.

Insofar as could be controlled, the physician sampling was a fairly homogeneous one, the doctors were the same age, about the same number of years in practice, same religious and racial background, and staff positions held were approximately the same. Their cooperation in the study was obtained through their personal friendship with the senior author and with the assurance of anonymity.

On the basis of the foregoing it was obviously impossible to include in the study any general practitioners who had tended strongly to direct their practice towards one specialty or another. It would obviously follow that the practice of a roentgenologist, or pathologist, or surgeon, would largely form Category A, i.e. predominantly organic. An individual who is attempting to do large amounts of psychosomatic medicine, or the neuropsychiatrist who treated by psychotherapy, shock therapy, and Prostigminsulfate or sedative, would certainly have the bulk of his practice in Category D, even when treating an organic-psychotic state.

A gasteroenterologist, when he treats an ulcer, is practicing organic medicine insofar as his prescription of anti-spasmodics, Sippy powders, anti-acids and diet regulation are concerned. But certainly his efforts to regulate the patient's

life habits and reduce his occupational and interpersonal tensions must be evaluated as psychotherapy. So too, mucous colitis, paroxysmal tachycardia, impotency, and myriad other conditions fall in the somewhat "bastardized" category of psychosomatic medicine.

An interesting thought obtrudes itself to remind us that it is the appraisal of the public which determines what doctor will be most successful financially. The public thus quite eloquently tells what type of medicine it most wants. It would behoove the practitioner to pay heed.

The reactions of the participating physicians were of frank surprise and amazement when they themselves realized the percentage of patients to whom they contributed, by their own appraisal, no substantial organic relief. One even said "even though I appraised it myself I can't believe that many of my patients would have gotten well if they had gone to a cultist in whom they had confidence."

It should be here recorded that no doctor in this group had any special post-graduate training in psychiatry.

Discussion The chart considered "in toto" shows an unanticipated uniformity. The division into the four selected categories was apparently a happy one, each classification holding about 25% of the total number of patients with almost no significant variation.

The detailed pattern of financial-professional relationships and the "psychotherapeutic" attacks used by these physicians will be the subject of separate communications.

Conclusions

At the risk of hackneyed reiteration, we proffer the following impressions: (1) The average general practice is at least 50% psychiatric in character, with a range of 30% to 75%. (2) The success of the general practitioner is dependent as much upon his ability to establish confidence as upon his technical medical acumen. (3) The establishment of such confidence (positive transference) is founded as much on the innate personality of the treating practitioner as on any learned psychodynamic or psychiatric techniques.

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Poliomyelitis —An Endogenous Virus

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Recent publication of the statement, by our Minister of Health, the Hon. Paul Martin, that Salk Vaccine is eighty-five percent effective against paralytic polio, in Canada, leaves even we gullible Canadians asking "On what diagnostic authority are his figures based?"

First.—What is paralytic polio? We unhappily know its end but are in disagreement as to its beginning. When does polio become paralytic?

Second.—Who can diagnose polio? A number of us have presumed to diagnose, using our one time standards of diagnosis to confirm our clinical diagnosis, to find now, not one has stood the test of time.

Lumbar puncture demonstrating cells was positive. Unfortunately too many patients with C.S.F.s free of cells developed paralysis. We have no proof the procedure was not detrimental to the patient.

Polio virus in the stool, once diagnostic, has been found in the stool of patients with no clinical evidence of polio.

Antibodies, those evidences of defense in the blood, are now found in such low titres in the blood of some polio patients that they are neither protective nor confirmatory of diagnosis.

This may account for the fact that the disease does not always confer immunity and can and does recur in the same individual. Possibly another type is developed.

Postmortem material derived from the C.N.S. of polio victims frequently fails to produce polio virus.

Our concepts of the pathology of virus diseases have in recent years been altered.

Boyd, in his text book, "Pathology," states "Specific inclusion bodies are very characteristic of true virus diseases. These inclusions represent the intracellular pathology of virus diseases." Intracellular inclusion bodies have now been found in lead poisoning, toxemia of pregnancy, tetanus, pernicious anemia, dissecting aneurism, uremia and alcohol poisoning. Experimental inclusion bodies have been produced by the injection of aluminum compounds, ferric chloride and carbon. And chromatin masses resembling nuclear inclusions, considered pathognomic of certain virus diseases, have been produced by repetitive stimulation of the axon with electricity.

Are the manifestations of inclusion bodies not indicative of the existence of a toxic factor in their production?

Then along come the Cutter Calami-

ties of the Western States, to demonstrate that live virus can be injected into a multitude of healthy children and only a mere decimal acquire the disease. What protective mechanism did the vast majority possess? To Mr. Cutter my hat is off. He has conducted an unwitting experiment on humans that a life time of "monkey business" would not parallel. Does this mean the cultured disease on animal tissue differs from the disease in humans? Epidemics rather support this theory.

It is my opinion the answer to these puzzles is found in the answer to the question, "Where and why does an epidemic start?" "What is the source of the endemic case?"

The answers are found, not in the experimental animal, but in observation of the multiple cases in isolated families.

The answer is, "The virus is not only exogenous but endogenous." I have observed three of these families. The story in each parallels. "No contact source; a sudden onset, simulating mild food poisoning; multiple cases in twenty-four to forty-eight hours; no incubation period; no spread."

The stage in these cases appears to be set as follows:

1. A toxic state. This may originate from food, water, a toxin, etc.

2. A systemic assault, i.e. surgery, pregnancy, infectious disease, inoculation, general malaise, fatigue, chill, heat exhaustion, malnutrition.

3. A biochemical irregularity. Into this phase may enter a genetic factor, endocrine factor, hormonal factor, vitamin deficiency, mineral deficiency. All in all a metabolic irregularity.

4. Virus formation.

The response of acute poliomyelitis and other virus diseases of the Central Nervous System to Iodine therapy bears out this endogenous theory of polio virus production.[1] Iodine is now established as a virucide but in polio it has a second role.[2] It appears remedial at the toxic and/or biochemical levels of the disease, adding a molecule of Iodine to a preexisting deficient biochemical chain producing a defensive substance, rendering the disease controlled.

All of which places the polio virus on the margin between the organic and the biochemical. Does the absence of Iodine in that chain spell the difference between the living organism and the biochemical substance? Does the polio virus demonstrate a piercing of the organic-biological barrier?

An interesting thought evolves from an article published in the *British Medical Journal*[3] dealing with malignant change following Herpes Zoster. Herpes Zoster, a virus disease of the Central Nervous System, responds favourably to Iodine therapy, as does acute polio. Herpes Zoster is linked with skin and breast malignancy. Have we here a clue? Is control linked with cell metabolism of skin cells? Has the virus theory of malignancy here a foundation of truth?

I have just now read, "The Fear Campaign Against Polio Vaccine" published in the Redbook. Their estimation of the effectiveness of Salk Vaccine 70 to 80% leaves a 20 to 30% of ineffectual defense; sufficient indeed to constitute a goodly epidemic. This is the group to now investigate. Why do they fail to develop a defense? What defense mechanism fails in this group? Why does Iodine and possibly Calcium and Vitamin C fulfill this lack?

We are in Winnipeg now encounter-

ing a virus disease, called Influenza, for want of a better name. Its periodic involvement of the Central Nervous System hints at a polio syndrome. Are various viruses capable of fouling the polio field?

I have personally demonstrated the value of Iodine in the field of virus diseases of the Central Nervous System.[1] This work has been confirmed in polio by Dr. R. R. Scobey[4] of Syracuse, N. Y. and Drs. Ortiz and Calcada of Mexico City, Mexico.[5] I am convinced, not alone does Iodine enter into this field. Dr. Scobey has been investigating the value of Calcium and Vitamin C. His work with Calcium has been approved by a British Columbia doctor. (5) The effect of Iodine on chronic cases of polio is being investigated by Drs. Ortiz and Calcada. A German doctor is associating polio and thyroid function. Dr. Edward Greer evaluates Vitamin C in acute polio.[6]

The most rewarding part is to see one's patients regain normalcy. The secret of Iodine therapy is "Early diagnosis and early treatment." One must be on his clinical diagnostic toes. The therapy is harmless. In the absence of confirmatory diagnosis empirical therapy is justified.

Summary

1. An endogenous - exogenous theory of polio development is presented.

2. Polio virus of endogenous development is presented as a crashing of the organic-biological barrier.

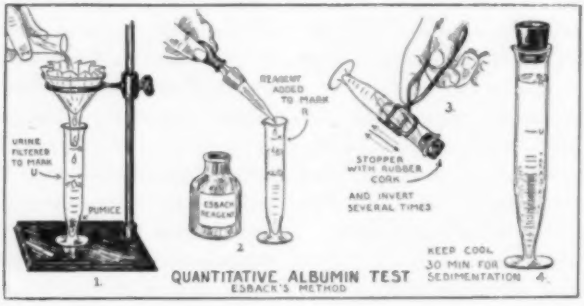
3. Malignant change following Herpes Zoster is linked with Iodine Metabolic control of Herpes Zoster.

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Clini-Clipping



Reactions to The Salk Polio Vaccine Injections of April 1955

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This report concerns a consultant's observations of the injections of Salk Vaccine in 1433 first and second grade children in nine schools in a nearby township.

The reactions to the vaccine were almost arithmetically dominant in 2/5's of the first graders and 1/3 of the second graders. All of the affected children had local reactions at the site of the injections, and fever. Closer observation was made of the larger school in which there were 90 in the first grades and 125 in the second grades. The reactions came on within 72 hours in all instances. The reactions were seldom single. In all cases it was accompanied by marked parental hysteria and great confusion on the part of the poor general practitioners who were faced with the problems of parents and patients, and whether or not to hospitalize the children. The most common reaction within the 72 hour period was a myringitis with associated headaches, symptoms referable to the neck and tender lymph nodes. When one looked in the ear, the drum had the appearance of having had a red raspberry stuck in the external auditory canal. These were hemorrhagic vesicles and the pain was extremely severe, much worse than—but comparable to— Ramsey Hunt's Geniculate Ganglion Herpes Zoster. The pain reference was similar. Accompanying the pain there was stiffness of the neck, but not of the Brudzinski-Kernig variety. The children could shake their heads "yes," but they could not say "no." The muscles of the neck were exquisitely tender as were the chain of lymph nodes. They were all enlarged unilaterally on the side away from the site of the injection in the arm. The aid of Dr. George Werner of the University of Pennsylvania and of the United States Public Health Service was enlisted. All the cultures were negative. All the symptoms persisted for a minimum of two months. In many instances these children were rushed to the hospital with a diagnosis of Polio without paralysis. Spinal fluid examinations were negative. The children were sent home within a day or two with a diagnosis of "Polio without paralysis." As far as I am concerned, this was not the correct diagnosis. But what was it?

From the Davis Clinic, Paoli Medical Center.

Some children developed coughs not unlike that of whooping cough that persisted for two to three months after the injection. The cough was not the sole symptom. It was accompanied by earache, headache, soreness of the muscles of the neck, soreness of the muscles of the back and abdomen with accompanying muscle tenderness. Eleven children developed typical signs and symptoms of epidemic pleurodynia within three days of the injection. There were innumerable instances of acute abdominal pain simulating peritonitis with accompanying cyclical vomiting and diarrhea at recurrent and irregular intervals for two or three months, associated with headache, earache, or cough. Many affected children developed generalized urticaria with associated generalized symptoms.

Long before the Polio vaccine program ever got under way, for many years, physicians have seen children and adults with symptoms not unlike these. Were they abortive Polio? Were these instances reactions to Polio Virus Vaccine? Were they the results of foreign protein reaction due to the fact that the virus was grown on the monkey kidney, testis or HeLa cells? Were they sensitivity reactions due to the penicillin and streptomycin contained in the vaccine? Or were they abortive cases due to contamination with the Mahoney strain of type 1 virus?

One does not wish for one moment to deprecate the momentous work of Dr. Jonas Salk. Personally I believe this vaccine is not the answer. I feel the vaccine should be administered by mouth or nasal spray or both, because these are the natural portals of entry.

Over thirty three years ago when I was a medical student, we were told about the work of Sir Almroth Wright concerning the development of Wright's negative phase following inoculations. In spite of reports to the contrary, I feel that there is a negative phase when the Poliomyelitis vaccine is given. This renders the children or adults more likely to develop that disease or any other disease (particularly if they are in the process of incubating it or some other disease) at the time of the inoculation. Although I am not possessed of the facts concerning the Cutter or Wyeth vaccine, I feel that many of the children who received these particular vaccines were at the time incubating Poliomyelitis themselves. Or they were thrown into a negative phase and consequently got the disease which they might have aborted as some "ordinary" infection that passes by the practitioner as one of the general infections of childhood—middle ear, cough, "The Spring Bug," etc. I do not see how anyone could have distinguished these reactions from illnesses that many physicians see in uninoculated children. The onset of symptoms following the inoculation was more than fortuitous. It seems that many of the children who developed symptoms within 72 hours after the inoculations in April of 1955 developed symptoms of various and sundry diseases that are not at all uncommon in children and adults during the spring, fall, and winter months.

The length and duration of the illnesses was more than is usually seen from the common middle ear, common cold, common diarrhea, or lymphadenitis. The raspberry ear, the whooping cough-like symptoms, the persistent abdominal pain, the recurring diarrhea, all of which persisted for two months or more is more than a mere accidental sit-

uation as a result of the injection. Now that Doctors Schwerd and Schaeffer have crystallized the Polio virus in a somewhat similar manner to Dr. Stanley's crystallization of the tobacco mosaic virus, there may be greater hope in immunizing of children and adults to poliomyelitis via the oral route by giving the crystals of the virus.

It is my opinion that the first Polio shot should be given after October, the second dose within six to eight weeks, and the third dose not until the following fall after the Polio season has ended. It is also my contention that the dose need not be as large as has been previously stated. I do not see why an intradermal of the material cannot give as much immunity as a large dose of the material intramuscularly. If we use live, mutant small-pox virus (as cow pox) intradermally there does not seem to be any reason, as far as I am concerned, why the gradual lymphatic absorption of the injected material intradermally would not be just as effective as giving an overwhelming dose. The present dose may very pertinently produce a shock-like negative phase, depress humeral defense mechanisms, and expose that individual to other infections. Or because they have had injections of penicillin for numerous and sundry other infections, the penicillin sensitivity anaphylaxis develops because it is in the vaccine. Of if they happen to be incubating Polio, it may cause them to develop the disease in all its fury. The editorial in the *New England Journal of Medicine* of August 18, 1955, Vol. 253, page 297, concerning Polio Panic, says in a few words what I would like to say, better than any other article I have read recently. I recommend that all lay people read this, as well as all dedicated physicians.

Poliomyelitis viruses and their mutants are widely distributed during epidemic periods. It is well established that operative procedures, trauma to the upper respiratory tract, oral surgery, general surgery, as well as injections, can precipitate poliomyelitis. Hence, they should be limited to emergencies during the epidemic period.

Hundreds of children in Belfast, Ireland and at the University of California have taken live, attenuated poliomyelitis vaccine* by mouth in capsule form without any reactions. There is great hope!

*This new vaccine has been supplied by Lederle Laboratories.

Sound Clinical Judgment

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Sound clinical judgment or sound clinical sense (S.C.S.) is the sum total of ingredients, which is hard to define and can only be acquired through assimilated experience. Judgment is defined by Webster "as the power of arriving at a wise decision or conclusion on the basis of indications and probabilities, when the facts are not clearly ascertained."

The practice of medicine remains an art despite the fact that it constantly utilizes scientific methods and principles in the solution of its daily problems. Assembly line methods with the cool detachment of the scientist are doomed to failure, because the physician is dealing with individuals whose reactions to health and disease, or to life generally are strongly influenced by the emotional response of the individual personality. The practicing physician must never forget that each patient is different and the same medicine which has helped or cured one patient, may not only not be helpful but actually do harm in another case with a similar condition.

It is well recognized with respect to some measurements, that the norm or the average for healthy persons varies with age, sex, race, diet, climate and other environmental conditions—thus a medicine cannot work precisely the same for two given persons, let alone all persons. The reason is simple and is due to the fact that biochemical relations within the body are constantly changing and wide swings in certain critical relationships may bring about the state of disease or ill feeling.

As an example of the forces involved, Dr. Gustave I. Martin, director of research of the National Drug Company cites enzymes, each of which has several related but distinct properties, which are activated in various ways according to environmental conditions. He explains that body chemistry is constantly changing with neither disease organisms nor host tissues ever completely specific. It is of interest to note that Dr. Martin believes that a theory of biological relativity can be worked out mathematically and tied in with Einstein's theory of relativity.

Whatever such biological theory may bring, it is important to remember that a small dose of a hypnotic like one and a half grains of phenobarbital or Nembutal or Seconal or some similar preparation will serve the purpose in a young adolescent and middle-age individual of average height, but

will do harm to the aged in as much as it will leave the aged individual confused and quite often psychotic the following morning. The experienced physician with sound clinical sense (S.C.S.) will realize what has happened and omit or reduce the sedative or hypnotic dose the following night.

I have seen many patients confused and disoriented with queer ideas suggesting some weird mental quirks, as a result of one hypnotic capsule or tablet taken at bedtime. This is not the result of any cumulative effect of a hypnotic but just an indication that elderly people cannot tolerate the average dose, which ordinarily is of great benefit to the younger individual. In hospitals where the hypnotics are generally more often prescribed perhaps to keep the patient quiet, it is well to remember that the elderly and perhaps emaciated patient may the next morning present a clinical picture offering a puzzling diagnostic problem. I recall many a case where the young interne or resident phoned in a hurry to say that my elderly patient had a stroke or some cerebral vascular accident during the night or early in the morning. When asked if my elderly patient had had any hypnotic administered the evening prior to the stroke, the young man would be quite cynical at the suggestion to omit all sedation for a few days in order to cure the cerebral accident.

Similar confusing symptoms and conflicting physical signs as a result of intolerance to medication are easily found in every field of medical therapy. Digitalis, the dehydrating agents, the antispasmodics, the newer antihypertensive drugs, as well as antibiotics, even the salt free or low sodium diets quite often present clinical problems which are puzzling and challenging to the physician.

The decision to come to a proper clinical conclusion in a given case, to know in a border-line case, when to continue with the medication and when to refrain from a line of treatment—this decision is not the outcome of book knowledge alone, but the expression of sound clinical sense (S.C.S.). The skill, with which the practicing physician meets such perplexing problems, determines in the end his success in helping to relieve suffering.

The following case will illustrate the importance of sound clinical sense (S.C.S.) in the practice of medicine:

A middle-aged man of 62 years is on a salt free diet because of mild hypertension. During the hot and sultry summer days followed by humid and sticky nights this man, who ordinarily perspires more than the average individual will do more than the usual share of sweating. Consequently, his sodium and chloride depletion will assume serious proportions, especially if the patient follows the salt free diet quite closely—which actually was the case in our patient. One hot morning our patient woke up with acute delusions of paranoid character. The patient's physician ordered the man to the hospital with the diagnosis of an acute cerebral "thrombosis." The poor man with his paranoid ideas of being poisoned had to be given a strong hypnotic (Amytal grains 7½ I. M.) in order to have the ambulance bring him to the hospital. There he was kept under constant heavy sedation (Amytal, Thorazine and paraldehyde), in deep narcosis until he finally died on the 7th day of hospitalization. No autopsy was performed but it is evi-

dent from the history that the symptoms in our patient were probably due to electrolyte imbalance in a salt depleted individual or a cerebral crisis or storm in a hypertensive individual.

A good history contributes the most important part of the medical examination. A skillfully taken history, carefully interpreted will usually provide more information than the most elaborate instrumental and laboratory investigations. No one can deny the enormous advances that have been made in the last decades in the technics of instrumental and laboratory studies. These newer methods of examination should be appreciated since the differential diagnosis of many diseases can be placed on a sure footing only by exact instrumental and laboratory findings. Roentgenologic, electrocardiographic and electrolyte studies are of great help. But these special examinations have their limitations by virtue of their impersonal quality and by the fact that the data are collected by fallible human beings who may place too much emphasis on minor deviations.

The wise and experienced physician with sound clinical sense will not be tempted to let the laboratory or some special instruments make the diagnosis for him. Instead, he will weigh the merits and limitations of each source of information, whether it be derived from the history, physical examination or the laboratory. It is the subjective complaint that usually brings the patient to the physician's office. These subjective complaints or symptoms will usually permit the experienced physician with S.C.S. to draw at least a tentative conclusion as to the nature of the malady. In many instances the diagnosis may be largely established from the history alone, making it unnecessary to subject the patient to a battery of instrumental and laboratory tests, which is apparently a sine qua non with young internes and many offices of eminent consultants. In fact, this routine extensive laboratory examination including roentgen, E.C.G. and other instrumental studies has been so implanted into the mind of the public, that the patient demands it and feels cheated and neglected if these complicated studies are not ordered.

The average patient today, enlightened by educational campaigns through the medium of cancer societies, heart organizations, polio funds, hypertensive clubs and numerous sensational claims published in lay magazines, is led to believe that only a thorough and expensive checkup gives him or her protection against disease.

Even in those cases where the history is not so decisive, it usually will have limited the diagnostic possibilities so that a logical investigation will be suggested. I hate to see complete roentgenologic and other laboratory studies being made again and again of a person who has a typical spastic colon, and has just had a careful surgical exploration of the abdomen. Often a large bill will unthinkingly be run up on a poor, hard working individual because he wants his wife or some member of the family to have the best possible examination. Sometimes, of course, a series of tests must be ordered to impress the patient or the family, because otherwise they will be terribly disappointed.

In many offices of our eminent consultants a patient may never see the physician until he or she has been through the whole diagnostic mill of

tedious laboratory and instrumental tests. Unfortunately in our college and private hospitals alike internes get the idea that laboratory and other tests do not cost anything. It is true that Blue Cross and Blue Shield and similar hospital insurance plans carry the burden of paying for a multitude of tests, which are usually ordered by internes and even wise old physicians, in fear that the hospital standards will be slipping if a clinical diagnosis is made with the stethoscope and the unaided senses alone. The extravagance of this kind of examination is usually the fault of those who constantly advocate early detection and treatment of diseases without realizing the limitations of these tests. In my opinion most diseases can be treated successfully after the first signs develop when a good history, the stethoscope and unaided senses will usually make the diagnosis.

In the final analysis it is the public who pays for these unnecessary and wasteful tests through increased insurance rates which keep rising steadily. Sincere efforts should be made not to waste money on tests which are useless, and in the long run will make socialized medicine inevitable because of ever increasing medical and hospital rates.

It is lack of clinical judgment if a patient with insomnia or sinus trouble has to go through routine tests of chest Xrays, E.C.C. gall bladder and stomach Xrays, B.M.R. etc., to find out why he or she cannot fall asleep or has sinus headaches. I doubt very much whether the management of these or similar cases has been jeopardized by an insufficient number of instrumental or laboratory tests. It is not slipshod medicine nor failure to keep abreast of medical advance if the physician uses sound clinical sense when he orders only those tests which are absolutely essential. It is bad enough to order useless tests when the patient can afford to pay for them, but it is much worse to order them when the patient cannot afford the expense. The wise physician should have the courage to refuse to order tests when the diagnosis is obvious, even though the patient insists on them. More of this courage is also needed in the field of surgery to refuse operations which are useless.

Some of these operations are unfortunately performed only to impress the poor patient that something is being done. This form of practicing medicine causes great expense, untold suffering and cruel waste. Nobody knows how many unnecessary operations are performed for the sake of preventing cancer alone. When the diagnosis of a psychopathic personality or of a neurosis is obvious it is sheer nonsense to waste huge sums of money and time on examining or re-examining or even operating for instance on a woman who lies awake at night making herself ill listening to the cough or dyspnea of an asthmatic child or wondering where her drunken or unfaithful husband is.

It is in the taking of a good history and in the analysis and interpretation of the data contained therein that sound clinical case (S.C.S.) is most frequently and most vigorously tested. The physician with sound clinical judgment will know and is able to disregard those findings which, although not normal, have nothing to do with the illness. It is evident that a typical migraine due to an inherited tendency and brought on by the effort to live with a mean spouse has nothing to do with silent gallstones

or a poorly functioning gall bladder, although both conditions may produce nausea and digestive disturbance. Removal of the gall bladder will not cure the migraine headache and will not relieve the accompanying nausea. The experienced physician is well acquainted with this and similar findings which are too numerous to mention if I am to keep my material within reasonable bounds.

I believe that a course in sound clinical judgment or sound clinical sense would be very useful to every medical student. It should include all normal variations from the average, which are harmless and can be disregarded in the diagnosis. It should also include the various peculiarities in the response of some individuals to certain medications or particular foods with accompanying symptoms which are not the result of the original illness, but an experience or reaction to the medication or food prescribed by the physician.

Skill, knowledge and experience of the physician, in short, sound clinical sense (S.C.S.) can do a lot toward reducing morbidity and even mortality among the sick. A slightly elevated basal metobolism and a somewhat higher or lower leukocyte count or hemoglobin or sedimentation rate are variations of normal, which the wise physician ignores. It is a sad fact that for lack of such standards of normal variations many wrong diagnoses are made and long and expensive treatments are given. Sometimes wrong diagnoses are based on poor and unreliable laboratory reports, on poor interpretation of roentgenologic and electro-cardiographic findings, especially if the physician is tempted to have the laboratory girl or the roentgenologist make the diagnosis for him. Laboratory, roentgen, electrocardiographic and other instrumental findings connote only an appreciation of the meaning of observations made by particular methods and a useful tool if interpreted by the clinician with sound clinical sense (S.C.S.).

Faulty analysis and lack of sound clinical judgment will lead to erroneous conclusions, even though the factual data are adequate, correct and complete. The history and physical examination provide the essential basic facts for diagnosis. The current use of laboratory and instrumental methods on a large scale in our medical centers and general hospitals has tended to exaggerate the importance of the ancillary examinations especially to the medical student and young physician. It is important to remember that when the results of such tests cannot be correlated with the facts disclosed by the history and physical examination, they can safely be discarded.

In any effort to arrive at a correct diagnosis it is always advisable to consider the element of probability, that is to think first of the most common disease which will furnish a satisfactory explanation of all the findings. It is also desirable always to attempt to explain all of the manifestations of an illness on the basis of a single disease. For example by far the most common cause of mitral involvement is rheumatic disease and the physician making a diagnosis of rheumatic endocarditis will be right most of the time.

The Weighing of All the Positive and Negative Evidence bearing upon the possible diagnosis depends not only upon the acquired basic information contained in a variety of medical textbooks

and upon the practical experience of the clinician, but also upon sound clinical sense (S.C.S.) which unfortunately is not on the teaching agenda of our Medical Centers. It is saddening and disheartening to see so many wrong diagnoses made and futile treatments instituted only because of poor clinical judgment. A vivid example of poor clinical sense is illustrated by a recent case history in my private practice.

A very obese middle-aged woman with active gallstones was advised to lose weight before safe surgery could be undertaken for the removal of the stones. Disregarding my advice, she underwent surgery and everything went well until the third post-operative day, when she suddenly was seized with severe chest pains, dyspnea, extreme weakness and a feeling of "dying." The patient was in extreme shock and routine methods to combat shock were instituted by the resident physician. A diagnosis of possible coronary occlusion was ruled out by repeated electrocardiograms and further observation of the patient. The patient continued to be dyspneic, cyanotic and orthopneic. Temperature remained normal, possibly due to continuous administration of antibiotics. However, roentgenographic examination of the chest revealed first an elevated diaphragm on the right side with subsequent accumulation of fluid in the pleural cavity, the fluid being sterile and of serous character. Repeated bronchoscopic examinations were negative and a diagnosis of an acute "subdiaphragmatic abscess" was made. The surgeon went in "to drain the pus" which was not there. The patient continued to go down hill with increasing dyspnea, orthopnea, cyanosis, anorexia due to increasing accumulation of fluid in the right chest. Another operation to find the pus "below the diaphragm" was contemplated and scheduled by the surgeon upon the advice and after consultation with the medical physician. However, the patient's family insisted that I examine her and the operation was cancelled. A good history alone with the sudden onset of severe shock will suggest the probable diagnosis in this case, namely coronary occlusion or pulmonary infarction. No subdiaphragmatic abscess is likely to throw a patient into severe shock on the third post-operative day without chills and high fever. The subsequent course with repeated negative electrocardiagrams and evidence of fluid accumulation in the right chest makes the diagnosis of pulmonary infarction with exudate probable despite a high diaphragm, which was reported by the roentgenologist and surely was there before the patient was operated on for gallstones. The patient was treated conservatively with repeated thoracocentesis and made a complete recovery.

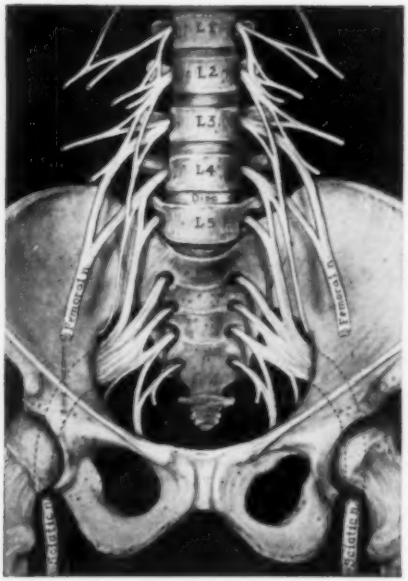
Summary

Sound Clinical Judgment is the result of proper assimilation and digestion of acquired basic information contained in various medical textbooks coupled with practical medical experience. A course in sound clinical judgment at our medical centers and teaching hospitals will do much to improve the practice of clinical medicine. This course should include all normal variations from the average, also the peculiarities and idiosyncrasies in the response of some individuals to certain diseases and medications. It is an enormous task, but a beginning should and

can be made. The admonition 'primum non nocere', (be sure you do no harm) is and remains fundamental to the practice of medicine. The discipline of medicine requires that the physician knows when to treat and when to let nature take its course. This is even more important today, when multitudes of new and relatively untried diagnostic and therapeutic procedures form an integral part of the practice of medicine.

3584 Reading Road

Clini-Clipping



Anatomical drawing of the lumbar region of the spinal cord showing the position of the sciatic nerve in relation to the vertebrae.



Anatomical drawing showing the relation of the sciatic nerve to the muscle of the right thigh (after Spalteholz).

Seminal Vesiculism in General Practice

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In the rapid progress of modern medicine there is one field which still needs exploration—the obscure and conjectural origin of certain forms of ill health. Every practitioner sees patients with long standing complaints for which they have consulted skilled specialists, may have been treated in clinics and hospitals with all available resources, and may even have undergone surgical procedures. They may finally have been classified as psychosomatic problems, and it has been asserted that eighty percent of office cases are some form of neurosis.

The writer has found during the past twenty years that the underlying cause in a large number and variety of these conditions is a definite subacute or chronic process in the seminal vesicles, and the diagnosis was verified by the direct and striking effect of proper treatment of these organs. A survey of the literature provides abundant support of his experience in numerous authoritative reports. These publications, however, are so scattered and isolated that, as has often been pointed out, they have not made due impact on medical practice.

Thus Hugh Young wrote in 1913: It is of great importance to examine the prostate and seminal vesicles in any painful condition between diaphragm and toes.

Thomas and Pancoast (1914) declared: "The seminal vesicles are too often forgotten. In the vast array of conditions the symptom complex is too little understood, as in rheumatoid arthritis, arthritis deformans, gout, hypertrophic arthritis, chronic bladder disturbances, recurrent epididymitis, impotency, renal and cardiac complications, digestive disturbances, and an ensemble of mental and nervous manifestations almost incredible of belief."

Singer (1946) commented: "Diseased seminal vesicles in young adults simulate so many other conditions that the correct diagnosis can be arrived at only by the most careful study, with special emphasis on the history of previous manifestations and sexual habits. Even urologists speak of 'prostatitis' when they mean, or should mean, prostato-vesiculitis."

Gibson (1954) noted: "During the last three decades the seminal vesicles have been found to rank very high among loci of infectious foci. Unfortunately many physicians, governed by their own or their patients' repugnance to rectal palpation, overlook the

seminal vesicles, or their inexperience does not enable them properly to interpret their findings."

Caulk (1913), Morris *et al.* (1932) and many others have criticized orthopedists and industrial surgeons who fail to relate sacro-iliac and sciatic pains to sexual disorders, and erroneously ascribe symptoms to slipped disc or other skeletal pathology.

Little teaching regarding seminal vesicles is given students, particularly in anatomical dissection. Nor is supervised instruction in palpation and treatment of these organs given, as a rule, to interns. While the prostate glands are in the spotlight because they are within easy reach, the seminal vesicles are in the shadow because they are difficult of access. Moreover, chronic seminal vesicle disease usually causes no local symptoms, so that its insidious reflex effects are rarely suspected.

Pathology Hotchkiss (1944) gives the following criteria: "Normal seminal vesicles are barely palpable. Congested and catarrhal seminal vesicles are large and soft, while the contracted fibrotic types, which produce a small viscid ejaculate, are felt to be cordlike nodular bodies beyond the upper lateral borders of the prostate."

The urologist's pathological findings in strictly genito-urinary cases may also appear in the general practitioner's patients who complain of aches and pains without prominent urinary symptoms. Careful questioning, however, may elicit evidence of vesiculism though the urinary difficulties are so slight that the patients ignore them.

Examination may then disclose diseased seminal vesicles ranging from painful and readily palpable types described by Hotchkiss to deeply embedded and less tender forms which can perhaps be palpated only with extensive experience. As Zigler (1921) said "Of those who attempt to examine seminal vesicles, few really know what they feel, still fewer are able to interpret their findings."

A copious secretion may present itself at the meatus immediately upon stripping, even before the prostate is emptied, or the vesicles may yield a gelatinous viscid fluid varying in color from white to yellow; or both types may be combined. In other cases vesicular fluid is entirely absent and appears only after a considerable number of vigorous strippings, when the ejaculatory ducts have opened. Occasionally blood appears in the secretion, indicating acute congestion of the seminal vesicles.

Calams (1955) in 141 *unselected* autopsies found the vesicles either hypertrophied or atrophied, but saw no round cell infiltration indicative of true inflammation. In clinical experience, however, proper palpation usually establishes the presence of painful induration and tumefaction, even though this may not be an inflammatory condition in the histo-pathological sense.

Theories Regarding Vesiculogenic Reflex As has often been noted, when the seminal vesicles are stripped the instantaneous palliation of pain in remote areas proves that the pain is reflex. Kuntz' (1947) observations suggest the mechanism involved: "The prostatic plexus, the plexus on the seminal vesicles and the cavernous plexus on the penis include sympathetic, parasympathetic and efferent components. Numerous very small flattened ganglia, some of which are incorporated in the prostatic plexus and others in the ves-

icle plexus occur in the fatty connective tissue between the prostate and seminal vesicles. They probably fall within the range of normal morphologic variations of autonomic neurons."

Limitations of space do not permit discussion of the work of Pottenger, Livingston, Lewis and many others regarding pain pathways, or to develop Head's thesis "Pain is *not* where you find it." It may be assumed that neurologic components in and around the diseased seminal vesicles have become pathologically involved and initiate a series of reflexes to distant regions of the body, emerging as "idiopathic" or "functional" entities. When these reflexes are understood, the diagnosis is clarified.

Etiology of Vesiculism Probably the most frequent cause of subacute and chronic vesicular disease is some form of sexual abuse—continued masturbation, frequent "petting", excessive intercourse, coitus interruptus—or total abstinence and consequent secretory congestion. A "cured" gonorrhea may predispose to a non-specific infection involving the seminal vesicles; or bacteria may reach them hematogenously from nose, throat, tonsils, teeth. Bicycling, motor cycling, horseback riding and automobile travel may be precipitating factors.

Whatever the cause, few men escape some form of vesiculism with or without prostatism. Nor is it confined to elderly individuals; as Singer and others have stressed, it occurs in younger groups as well.

Vesiculo-prostatitis This term came into use when it was realized that prostatitis is almost always associated with seminal vesicle disease. The term "vesiculism" proposed by Schepers is preferable to "vesiculitis" since it avoids objections by pathologists who have found no post-mortem evidence of vesicular inflammation in the form of round cell infiltration.

Vesiculism is almost always present in benign prostatic hyperplasia, so that prostatectomy or trans-urethral resection may leave a residual dysuria. In fact, surgery may cause a flare-up of a latent vesicular infection. Rathbun (1925), quoting Boyd's (1924) report on seminal vesiculitis following prostatectomy, agrees that an acute vesiculitis occurring shortly after operation accounts for certain local and systemic disturbances hitherto attributed to other causes. Persistent post-operative dysuria has been incorrectly ascribed to a complicating cystitis which was treated with bladder irrigations and urinary antiseptics with little or no improvement.

Later it occurred to Rathbun that the seminal vesicles might be at fault; massage produced improvement in all his cases—in some so prompt that it was striking.

Writing on "Urinary Obstruction from Benign Prostatic Enlargement—A Plea for Conservative Treatment," H. J. Farbach (1929) concluded that medical treatment gave him better results than surgery, and noted that removal of the prostate does not definitely eliminate nocturia, frequency and dribbling.

Chapman (1949), advocating expectant treatment, declares: "It is unjustifiable to remove the prostate merely because it is enlarged, and has been associated with some symptoms. Prostatic enlargement should be regarded as an anatomic feature of age, like corneal arcus senilis and hair gray-

ing. Patients seek advice in the stage of congestion."

In the present writer's experience, conservative treatment in selected patients has been successful in cases in which surgery was contemplated and, in fact imminent, as the following history illustrates:

V. M. aged 73. Was driven to my office. Trip lasted over an hour—stopped twelve times at service stations because of severe urinary tenesmus; but voiding was impossible because of agonizing abdominal and rectal spasms. He had an acute respiratory infection. He showed anxiety because his younger brother had been recently subjected to two-stage prostatectomy with unsatisfactory results.

The prostate was found greatly enlarged and the seminal vesicles tender and doughy. Because of the patient's state of mind and poor condition, the first stripping had to be done with utmost gentleness. Immediately thereafter, he was able to urinate copiously, and on the trip home, he experienced no further desire to void. Was treated thereafter three times weekly for a month, then twice a week for several weeks, and now (18 months later) he is treated only occasionally. He has no dysuria or nocturia. Stripping is painless, the seminal vesicles are barely palpable and the prostate is practically normal in size.

Urinary obstruction may be partly due to swelling of the mucosa at the bladder neck and posterior urethra. Under appropriate treatment, the swelling may subside and simultaneous massage may reduce the size of the prostate to the point of inoffensiveness. Stripping the vesicles and thereby reducing their tumefaction will (1) relieve mechanical pressure on the bladder neck and (2) relax the reflex bladder neck spasm. Satisfactory bladder function is thus restored.

When stripping of the seminal vesicles does not entirely relieve long-standing complaints, the presence of posterior urethritis, trigonitis and verumontanitis should be suspected. Thereupon urological treatment (urethral sounds, catheterization with bladder antisepsis, cystoscopy, urography) in conjunction with vesicle stripping and prostatic massage is indicated. Urine sensitivity tests are expensive and uninformative, though possibly of some service in extremely resistant cases (Cook, 1955). When x-ray reveals calculi in a prostate, disposition of the case is left to the urologist. A pyelogram may show a silent kidney stone which may account for persistent abdominal cramps.

The present writer has found, as O'Shaugnessy (1956) has stated, that the finding of white blood cells in prostatic fluid is not sufficient to settle the diagnosis of prostatitis. But O'Shaugnessy disregards the fact that *non-infectious* congestion of the prostate and seminal vesicles can explain the "miscellaneous urinary and reproductive difficulties" which he mentions, as well as spasmogenic reflexes causing diverse syndromes.

The Acute Abdomen — Differential Diagnosis It has been frequently emphasized that seminal vesiculism may simulate a surgical abdomen. Conroy (1951) comments editorially: "A less commonly recognized condition which may mimic acute appendicitis is acute seminal vesiculitis. The tense and tender vesicles may be misinterpreted as pelvic peritoneal reaction surrounding an inflamed appendix."

Herbst (1930) "would not venture to estimate the number of patients who have undergone appendectomy for acute prostatitis and seminal vesiculitis." Riley (1938) warns that "a seminal vesiculitis with perivesiculitis may easily simulate appendicitis, especially if both processes are chronic." White (1918) agrees that "appendectomies have been performed, cases diagnosed as ureteral, renal or gallstone colic, when the real cause was some form of seminal vesicle disturbance which could be satisfactorily treated." Judovich and Bates (1953) cite Alvarez's survey of 255 cases of chronic appendicitis, in only two of which a cure of the symptoms was attained; an adult who never had an acute appendicitis and submits to appendectomy has but one chance in a hundred for a permanently satisfactory result.

Harlin (1950) reported: "During the past few years at Lawson Veterans Administration Hospital, I have with increasing frequency seen patients whose symptoms had directed ineffectual treatment toward the kidneys, the ureters, the urinary bladder, the gall bladder, the gastro-intestinal tract, the appendix, and the neuro-psychiatric system, but who had been and were suffering from an infection of the seminal tract, and more specifically seminal vesiculitis. Many of these unfortunate persons had experienced symptoms ranging from several months to several years, and on occasions had been subjected to operative procedures which left them with their preoperative complaints."

The following case, seen by the present writer, so closely simulated an acute appendicitis that surgical intervention was averted the last minute.

D. E. age 23. Intense pain over right upper and lower quadrant, associated with nausea and retching apparently calling for immediate laparotomy for either renal calculus or appendicitis. Rectal examination revealed an enlarged tender prostate and a boggy painful right seminal vesicle. Stripping produced a dark thick bloody discharge. The symptoms were relieved for a few moments, but the pain returned and he was therefore hospitalized. Members of the resident staff repeated the rectal examinations and manipulations several times during the evening, with similar results. The next day the patient had fully recovered from his acute symptoms and was discharged.

Orthopedic Complaints Due to Vesiculism This relationship has been confirmed in more than fifty publications. Young (1913) urged the inclusion of rectal palpation routinely in all physical examinations. If this were done—Many a poor individual who has continued to suffer while stigmatized as a neurotic, would find relief in many a case of supposed rheumatism, sciatica, lumbago and renal colic, and would be correctly diagnosed and cured.

Wesson's (1938) finding that "80 percent of low backache in man is due to infection of the prostate and seminal vesicles, and the degree of infection is not proportionate to the amount of pain" is frequently quoted, as is Von Lackum's (1927) report: (from the Mayo Clinic): "The prostate and seminal vesicles are a focus of systemic infection in arthritis, spondylitis, calcaneal spurs, neuritis (including sciatica), myalgic and neuromuscular pain, ocular infections (chiefly iridocyclitis, neuroretinitis), secondary anemia, vasomotor skin disease (urticaria and an-

gioneurotic edema), erythema multiforme, dermatitis, dermatoses, so called indeterminate pyrexia, backache, abdominal pain, functional gastric complaints, torticollis."

Pugh (1929) observed in his paper on seminal vesiculitis: "Straub says that the doctor who treats the back without clearing the vesicles, prostate or other source of infection is as guilty as a quack. Every case of backache in the male is worthy of a rectal examination. Michel reports that 75 percent of male backache is secondary to prostatitis or vesiculitis."

Shea (1924) says: "It is necessary to examine and treat the seminal vesicles when they are the primary sites of infection. They may be secondary sites from infected teeth, tonsils or other foci."

Modern urologic textbooks recognize that the seminal vesicles may be a pathogenic factor in orthopedic disease. Thus Gutierrez (1942) writes in Lowsley's "Sexual Glands of the Male": "It has been observed that 75 percent of cases of backache in men are the result of seminal vesiculitis and prostatitis, due either to disturbed sexual life or venereal disease, causing referred pain."

Many patients with so-called "slipped disc" syndrome have given a history of dull backache on arising in the morning gradually subsiding during the day. The condition progressed to a state of partial or complete disability and may have produced sciatic pain. The dramatic results which can be obtained in low-back pain are demonstrated by the following case history:

M. G., aged 44. According to the hospital records, had a sudden onset of pain at age 21, so severe that he could not move; he was strapped and given diathermy. During the following thirteen years he had eight similar attacks, and when hospitalized, his attack had lasted for three weeks. The pain was in the right lumbar region radiated into the postero-lateral aspect of thigh. Myelogram showed herniation of inter-vertebral disc L-3/4 and L-4/5. The final note on the hospital chart stated he had fairly characteristic signs and symptoms of herniation of the intervertebral disc. Surgery was advised, but refused.

When he consulted the present writer, examination revealed enlarged tender seminal vesicles. Prostate was small, firm and smooth. Stripping of the vesicles produced immediate relief of pain —so that he was able to walk without his sacroiliac belt. After twenty-five strippings over a period of three months, he became entirely free from pain and disability, and was discharged cured.

The immediate clinical response definitely establishes the fact that the hospital diagnosis was in error.

Neuro-Psychiatric Conditions

Chester T. Stone, in his book on "The Dangerous Age in Men", (1935) made the following summary of the symptoms of "sexual neurasthenia:" "The neurasthenia is due to the vesiculitis and will persist until the vesicles are treated. The symptoms are headache, made worse by sexual excitement, loss of sleep, anesthesia at times, alternating with excessive sensitiveness of various portions of the body surface, flushing of the face and embarrassment, indigestion and constipation, mental lassitude with a tendency to melancholic brooding, and fears of impotency."

The psychic consequences of sexual impotence demand special considera-

tion. As Lallemand said: "The feeling of sexual impotence is the most humiliating which can afflict a man. It degrades him in his own eyes and leaves him not a single illusion, not a solitary moment of hope. In many a union the cause of unhappiness is the curse of impotencia sexualis. Dismissing them with a placebo or empty phrases, leaves the problem unsolved. What is needed is treatment not preachment."

Smith and Morrissey, at the New Jersey State Hospital, found inflammation of the prostate and seminal vesicles in 30 percent of 1,000 cases with neurotic symptoms. The neurotic state varied from a mild apprehension to suicidal intention, one of the most serious phases of vesicular infection. The previous recovery rate had been 37 percent, but with urological treatment it rose to 77 percent.

Zigler, Cabot, McCarthy, Fetter, Barnes, Caulk, Valverde, Schepers, Wiltse and many others have issued warnings against minimizing complaints of sufferers from seminal vesiculism or telling these patients they are only "mental."

Convincing demonstration of the psychic effect of seminal vesiculism is often provided by the patient's reaction to the first stripping. The anxious, despondent facies disappear and the immediate improvement in mental and physical state is gratifying. The varied symptoms characteristic of the vesicular cripple disappear with rapidity. The most rewarding achievement in this class of cases is the removal of the stigma of a psychiatric diagnosis and the restoration of self-esteem as in the following case:

S. F., age 38. History of severe depression of three months' duration. Hospitalized on two previous occasions, given shock therapy without benefit. During the interview he cried continuously. Stated he had lost desire for food and he smoked incessantly. Sexual desire was increased. Unable to keep his job and had to be supported by his wife, which intensified his despondency. Rectal palpation revealed tender, doughy seminal vesicles and congested prostate. Vesicular stripping and prostatic massage produced an immediate change in his mental and emotional state. Thereafter appetite returned, chain smoking stopped and normal vigor developed. Under treatment for four months, and at time of discharge was employed and adjusted to family life.

A follow-up eight years later showed that he had been well; he came in solely because he "felt nervous" and deemed it advisable to have more treatment to prevent further trouble.

Technique of Vesicle Stripping

The patient is placed in the knee-chest position on a low examing table. The gloved finger is gently inserted high into the rectum and directed laterally towards the seminal vesicle. To effect deep penetration with a forcible thrust, the bladder and vesicles are pushed closer to the examiner by pressing with the left hand against the lower quadrant corresponding to the vesicle being treated. The procedure will be facilitated if the patient presents himself with a full bladder, and this has the further advantage that urination after treatment washes out the accumulation in the posterior urethra.

The finger is bent and moved over each vesicle in a series of wide sweeps forming the shape of a question mark, the convexity of which faces laterally.

Each downward sweep is ended by stripping the lowermost portion of the vesicle where it joins the vas deferens. Firm pressure must be exercised, to indent the perivesicular tumefaction. The manipulation in the doughy areas may produce an effect comparable to the pitting which results when a finger is pressed into an edematous ankle. In this way the secretion is pushed through the ejaculatory ducts into the posterior urethra. Finally the prostate is massaged in the routine manner.

If the procedure is correctly carried out, the first or second stroke of the finger should immediately relax the anal sphincter. This enables the examiner to probe higher and strip more effectively.

The number of strokes depends upon the patient's reaction. He may initially be unable to tolerate more than three on each side. Some patients are hypersensitive even to slight pain. In others, even though no pain is felt, a marked arterial hypotension occurs with the initial stripping. It manifests itself with pallor, faintness, generalized warmth and sweating, or tingling in the extremities immediately after treatment and may last for several minutes. Patients should be forewarned of such a contingency. Care to avoid laceration must be taken with patients having internal hemorrhoids, or friable rectal mucosae.

The treatment schedule is usually as follows: Light stripping for the first three days; then stripping with gradually increasing pressure to point of tolerance on alternate days for two or three weeks; subsequently twice a week and eventually once weekly. The intervals are lengthened in accordance with clinical improvement. The duration of a course of treatment varies; it may extend over many months and should be resumed if need arises.

Medication and Regimen The patient takes a triple sulfa compound (7½ grains q.i.d.) during the first three days of consecutive treatment, and thereafter on every treatment day to safeguard against metastatic involvement (epididymitis, ocular infection) from the potentially infected secretion evacuated by stripping. While sulfa compounds like other chemotherapeutic agents are of limited value in combatting deep-seated infections in the prostatic and vesicular mucosae, they tend to control infections in the bladder, bladder neck and posterior urethra which may aggravate the condition locally and reflexly. Sulfas are preferable to the expensive antibiotics which are more likely to give rise to side effects; moreover it is advisable to reserve antibiotic medication for the eventuality that the patient contracts a serious infectious disease rather than needlessly to risk creating possible bacterial tolerance. In cases of idiosyncracy to the sulfas, another chemotherapeutic agent may be substituted. The patient should be placed on a balanced diet free from highly seasoned foods, and coffee and tea in moderation only. Alcohol should be prohibited, because of its irritating effect in the genito-urinary tract. General supportive treatment (vitamins and minerals) should be prescribed. Smoking should be restricted. Exposure to colds should be guarded against and, if an intercurrent infection does occur, should be treated promptly and effectively.

In cases of dysuria, hot Sitz baths lasting for from five to eight minutes, morning and night, are beneficial.

Irregular sex habits must be corrected and should be replaced by normal sexual intercourse; abstinence or moderation in coitus is required until the symptoms have improved.

If the patient is depressed because of partial or total impotence, psychological encouragement, together with his own realization of progress in recovery, is conducive to the return of sex function.

Constipation must be avoided because the pressure of feces and flatus aggravates prostatic and vesicular congestion. Occasionally there may be delayed bowel evacuation after the early treatments, due to reflex spasm caused by trauma incidental to vigorous stripping. This stasis can be corrected by a low lukewarm bicarbonate enema, plus milk of magnesia, in teaspoon doses given in a full glass of water or milk every six hours for one or two days. One of the results of stripping the seminal vesicles, as a rule, is relaxation of bowel spasticity even in obstinate constipation. The use of cathartics, therefore, must be stopped.

Conclusions

1. Seminal vesiculism may be locally asymptomatic, but may cause reflexes with clinical manifestations in distant parts of the body and frequently errors in diagnosis and treatment.

2. Palpation of the seminal vesicles should be a routine procedure in physical examinations, particularly when the cause of the complaints is in doubt.

3. Individualized treatment of vesiculism often proves effective in a large variety of disease syndromes in which vesiculism is diagnosed or suspected and which have resisted all previous therapy.

4. When competent stripping does not produce optimal results, urologic examination and treatment of the bladder neck and posterior urethra are indicated.

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2114 Bedford Avenue

Clini-Clipping

	NEGATIVE	DOUBTFUL	POSITIVE
CONTROL	 Complete Lysis	 Complete Lysis	 Complete Lysis
TEST	 Complete Lysis	 Partial Lysis	 No Lysis

Reading of Eagle Complement-Fixation Test

Low Back Pain

KURT HIRSCHHORN, M.D.
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". . . . . Thou cold sciatica
Cripple our Senators, that their limbs may halt
As lamely as their manners! . . . . . "
William Shakespeare, **Timon of Athens**

Pain in the neck, pain in the back, and inferior regions have become everyday expressions of annoyance, an observation which bespeaks the frequent incidence of these conditions. Of these, low back pain has been variously estimated as being the most common symptom in the American populace, the second most common complaint in the general practitioner's office (headache being the first), the third most common complaint in the internist's office (next to headache and abdominal symptoms), and the most common symptom found in association with other diseases. Literature, both medical and general (see above), has been full of references and articles about the various forms of this malady for many centuries. Explanations and therapy have varied more than women's fashions, ranging from superstition and fantasy (not entirely absent today) to an occasional rational approach to the problem. The names applied to low back pain, such as lumbago, sacro-iliac, sciatica, and so forth, reflect the vogue of the time as to etiology of the majority of these aches. The recent ascendance of the psychiatric specialty has led to the recognition of the tremendous emotional aspect of all disease, especially of the tension aspects of back pain, but even here overenthusiasm has led to much sloppiness in the physical diagnostic and therapeutic aspects. Just as limited, on the other hand, are the physical purists who explain everything on posture, myofascitis, triggerpoints, discs, retroverted uteri, joint disease, subluxation, or on whatever their particular specialty may focus their attention.

Etiology There exist many systems of classification, each usually based on the originator's pet theory or subspecialty. An attempt shall be made here to summarize all of these into what seems to be a practical system which goes hand in hand with the system of examination and differential diagnosis outlined later.

The present-time most popular etiologies are intervertebral discs (falling somewhat into disrepute), osteo-arthritis (disregarded more and more), and musculocutaneous difficulties of insufficiency, postural and inflammatory types (coming more and more into favor).

Before listing the various etiologies, it may be mentioned that study of the

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anatomy of the human back, as well as the comparative anatomy and physiology of that organ makes one suspect that it is liable to easy strain, and injury. Add to this the abominable habits of our peculiar species, and one wonders how any of its members have escaped the symptom of back pain, and, in truth, few have. Two of these habits deserve mentioning. From infancy on, man is compelled by civilized convention to sit immovably with his back flexed for hours on end, all for the benefit of a modern education. In many cases, this position is continued throughout his life. The second habit is that of standing in a set position for long periods, frequently also with the back flexed, and being forced to maintain this position until the day's work is done, at the risk of losing one's job. As to the above-mentioned anatomical peculiarities, a short discussion is here in order. Those interested in the general anatomy of the back are referred to any atlas. The first of the special features to be mentioned is the fact that the lumbar lordosis is man's alone among all animals. This as well as all the other peculiarities are a result of our upright posture, while even orthograde apes do not possess it. It becomes manifest at two years of age and is accentuated by a wide lumbosacral angle, more pronounced in the female. There is modification of the lumbosacral musculature, in that the attachment of the erector spinae group is very extensive and that the quadratus lumborum constitutes a solid mass of muscle. Despite these muscular adaptations the strain on the joints and ligaments in the area is still extreme due to the constant weight-bearing duty placed upon them. In addition, few men take advantage of their modified musculature in that they never develop it fully. As a matter of fact, they probably retard the normal development by limiting their activity to the static strained postures forced upon them by their employment. Furthermore, the lumbo-sacral area in man shows a great deal of anatomic variation, the most common being sacralization of the fifth lumbar vertebra (4%), asymmetrical lumbo-sacral joints, and abnormalities of the laminae of the 5th lumbar vertebra (spondylolysis and spondylolisthesis). These add to the instability of the area. The intervertebral discs here are exposed to much more strain than in other parts of the spine, and, despite their stoutness and strength, may rupture due to a strain or a series of strains which can not always be considered abnormal.

In view of the foregoing, it is surprising, indeed, that anyone escapes the misfortune of the Low Back.

As to the specific etiologies, the first subdivision is whether the condition is acute or chronic. The acute low back is always a mechanical fault, and may arise in the muscle as a spasm or tear, in a ligament as a tear, in a joint as a synovial injury or dislocation, and in a bone as a bruise or fracture. Leaving the traumatic injury to discussion in all orthopedic texts, a few words should be said about the acute back resulting from a mild effort or a slight change in position. These are almost invariably the result of weak, imbalanced muscles which, upon being surprised by an unexpected strain, go into spasm. Occasionally, due to muscular relaxation, there is sudden strain on a ligament, and, even more rarely, a previously injured disc fully herniates.

The much more common and severe problem is the chronic low back pain. Here we may begin at the skin and work our way in.

Skin: Herpes zoster, dermatitis.

Subcutaneous tissue: Fibrositis, herniation of fat lobules through normal partitions and fascia.

Muscle: Myositis, Triggerpoints, postural strain on *weak muscles, tense muscles* (tension syndrome), sarcoma.

Nerve: Sciatic neuritis, 1° nerve tumors, traumatic neuroma.

Bone: Spondylolisthesis, fractures, tuberculosis, brucellosis, typhoid, osteoporosis (with and without compression fractures), myeloma, metastases, primary tumors (benign and malignant), osteomyelitis.

Spine as a whole: abnormal curvature, congenital deformities, spondylitis deformans (Marie-Strümpell).

Disc: Herniation, degeneration.

Joints: Osteoarthritis, traumatic arthritis, sacro-iliac sprain and inflammation, hip disease.

Ligaments: strain and tear, especially lumbosacral strain.

Related structures: Faulty foot mechanics, difference in leg length, poor abdominal musculature.

Spinal cord: tumors.

Viscera: pancreas, kidneys, spleen, retroperitoneal lymphnodes, stomach (especially posterior neoplasm or ulcer), duodenum, sigmoid and rectum.

Special forms of pain are sciatica (radiating down the back of the leg) and coccydynia (pain at coccyx). The causes for these are:

Sciatica: herniated disc, collapsed vertebra, tumor of root or meninges, spondylolisthesis, pelvic tumors, gluteal abscess, soft tissue tumors, primary neuritis, and (most commonly) the pseudosciatica of fibrositis, myositis and triggerpoints.

Coccydynia: Fracture, sacro-coccygeal joint and ligament injury, myositis, fibrositis.

And last, but certainly not least, the vast number of psychosomatic backaches, a great number of which are secondary to compensation cases pending outcome, and another great number of which are the result of longterm poor therapy of a backache, which has long since lost its organic component.

Some of the above etiologies deserve brief comment (see terms in italics above).

Fibrositis, myositis and triggerpoints most frequently occur together in persons with poor musculature or those with great emotional and muscular tension (therefore the name, tension syndrome). Their diagnosis will be discussed later. Pathologically, these entities show some increase in mononuclear elements, as well as local areas of avascularity and necrosis.

Herniation of fat, originally described by Copeman and Ackerman, has been adopted by several authorities (especially in England) as the cause of all fibrositis and triggerpoints. Although this condition certainly does produce pain on rare occasion, most triggerpoints are to be found inside the muscle mass, representing local areas of spasm, rather than within the subcutis.

Spondylolisthesis, a congenital bilateral nonfusion of the laminae of the 5th lumbar vertebra, is capable of producing low back pain by vertebral instability which in turn causes ligamentous strain and muscle imbalance. It also may cause a herniation of an intervertebral disc, thereby causing sciatica. Spondylolysis, on the other hand, is a unilateral defect,

which generally is not a cause of pain or instability.

Abnormal curvature of the spine need only be mentioned here in the case of childhood scoliosis and adolescent kyphosis, conditions which are curable at onset, but, if not tackled very actively, will invariably result in adult difficulties leading to low back pain due to muscle imbalance.

Herniation of an intervertebral disc occurs almost exclusively at L5-S1 (50%), L4-L5 (40%), L3-L4 (9%), C7-C8 (1%). Anywhere else, it constitutes a medical rarity. This entity reached its fashionable peak in the 1940's, at which time many authorities stated that all or almost all low back pain is caused by the disc. Gradually, enthusiasm has waned, and in several large series (especially in one from Presbyterian Hospital Low Back Clinic) has been estimated to be responsible for 3 to 4% of severe low back pain. Since, due to

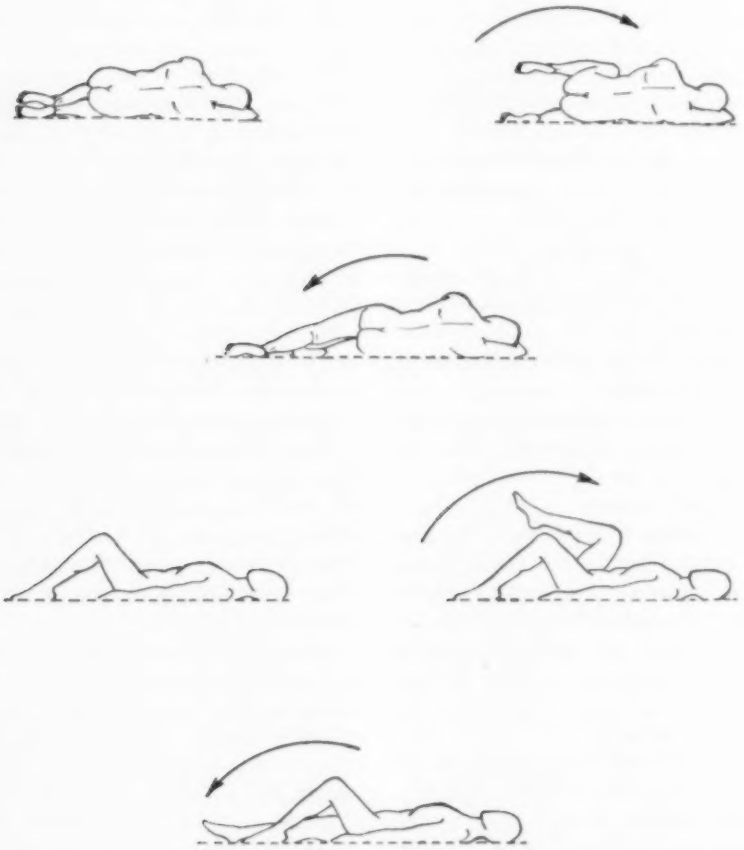


Fig. 1. Treatment of muscle spasm.

the weak point in the lateral parts of the posterior spinous ligaments, the disc almost always herniates posterolaterally, it is responsible for compression of the spinal root, thereby causing true sciatica, frequently with neurological symptoms.

Osteoarthritis, frequently blamed for low back pain with and without x-ray evidence, is rarely a cause in and of itself. There are many persons with radiological pictures of severe spurring and bridging, who have no low back symptoms whatsoever. Osteoarthritis may, by partially immobilizing the spine, contribute to the pain of muscular inactivity, or, in a rare case, an osteophyte may actually press upon a nerve producing direct pain.

Examination of the Patient For the purpose of reassurance, it is best to focus immediate attention, even if only perfunctory, on the local problem. However, in all but the most obvious acute traumatic situations, a thorough complete physical examination should be performed, of course preceded by a particular and general history. The more specific parts of the history will be mentioned later. The patient should be completely undressed and, if necessary, draped from the front. The acts performed while undressing should, if possible, be observed by the physician or a trained nurse, so that movements may be seen which the patient later denies being able to do. On inspection attention should be paid to the patient's general build and musculature, his posture, deformities, and the landmarks of the back should be located.

Palpation is one of the most important parts of the examination. First the tender part should be located and then the type of tenderness determined. This is done by first picking up and rolling the subcutaneous tissue (fibrositis), flat hand palpation of the muscles (myositis, spasm) and last, deeper finger palpation (triggerpoints, spondylolisthesis, tender joints).

Percussion may be of some help in locating metastatic lesions and kidney pathology, but is usually not very useful.

Auscultation may expose a friction rub or crepitation, but also does not belong to the more helpful class of tests.

There exists a great number of tests, a list of which reads like a history of the great names in orthopedics. These may be found in most standard texts of orthopedics, each of which ascribes different significance to all of them, and some of which call them all equivocal. This is probably the sanest attitude. Worthy of mention here is but one of these, Lasègue's sign. This sign, a modification of the straight-leg raising test, is performed as follows: the patient supine with his knees extended, each leg is tested by passively raising it to the point of pain; it is then lowered slightly, and the foot is sharply dorsiflexed. While pain on straight-leg raising can be caused by muscles, joints, ligaments or nerves, the true Lasègue's sign is usually more suggestive of sciatic nerve pain (disc, neuritis, etc.), although a tender, tight gastrocnemius may produce a similar response. One other orthopedic maneuver should be mentioned. The patient (supine) lies near the edge of the table; the lower extremity nearest the edge is then lowered from the table. If his pain is reproduced by this action, (essentially a hyperextension maneuver), disc disease should be suspected.

It goes without saying that a complete neurological examination is necessary in the evaluation of low back pain. Furthermore, it cannot be stressed enough that rectal and, in the appropriate half of the population, vaginal examination should not be neglected in these patients.

Following the above, the patient should be observed in the performance of all the active movements of the spine (flexion, extension, lateral flexion, rotation) in the standing and sitting (thereby eliminating the sacroiliac joint) positions, looking for the occurrence and location of pain, limitation of motion, and abnormal motion. The hips and legs should be similarly observed.

I shall now describe what may be the most important phase of the examination in the vast majority of low back pain. This consists of a series of basic muscle strength and tension tests devised by Kraus. These tests may be formulated into a profile which is useful in following the patient's progress with therapy. The patient is prone with a pillow under his hips, hands behind his neck; with hips and legs held by the examiner, he raises his trunk and, optimally, holds it up 10 seconds. Then, with hips and trunk held down, he raises his lower extremities for 10 seconds. With ratings of 0 to 10 (seconds), these are recorded as upper and lower back muscle strength $\frac{10}{10}$ (B—).

The patient is next turned on his back with his hand behind his neck. With his ankles held down by the examiner, the patient sits up; his ability to do so with or without assistance is graded 0 to 10 and recorded as upper abdominal strength $\frac{10}{}$ (A—). He then raises his legs to a thirty degree angle with his knees straight and holds them up for 10 seconds, if able; the time held is graded as above and called lower abdominal strength $\frac{10}{}$ (A—). The patient now flexes his knees, and, with his ankles held down, again sits up; again his ability and range to do so is graded and recorded as abdominals with psoas eliminated (A—10).

Now the examiner lifts the patient's legs individually, passively, with knees extended, and measures the final angle achieved from 0 to 90 degrees and records it as hamstring flexibility $\frac{90}{}$ (H—). While palpating the fifth lumbar vertebra, the examiner next raises both legs together, passively, with knees extended, until he discerns movement at the lumbosacral joint; the angle between legs and table is now measured (normal is 35 degrees) and recorded as combined flexibility of both hamstrings (H—35).

The patient now stands with his feet together and, with his knees straight, tries to touch the floor with his fingers; floor-touch is considered normal (t) and, if this is not achieved, the distance from fingertips to floor is measured in inches and recorded as a minus number as combined back muscle and hamstring flexibility (BH-t).

These measurements are supplemented by determining differences in leg length (anterior superior iliac spine to medial malleolus) and the estimation of the pelvic angle, which is done by holding one branch of a protractor to the plane of the sacrum and the other

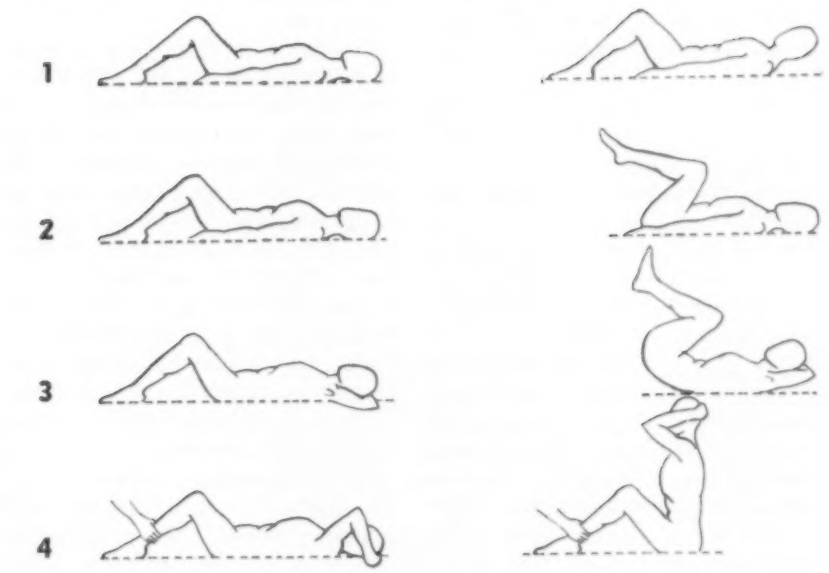


Fig. 2. Exercises to build abdominal muscle power.

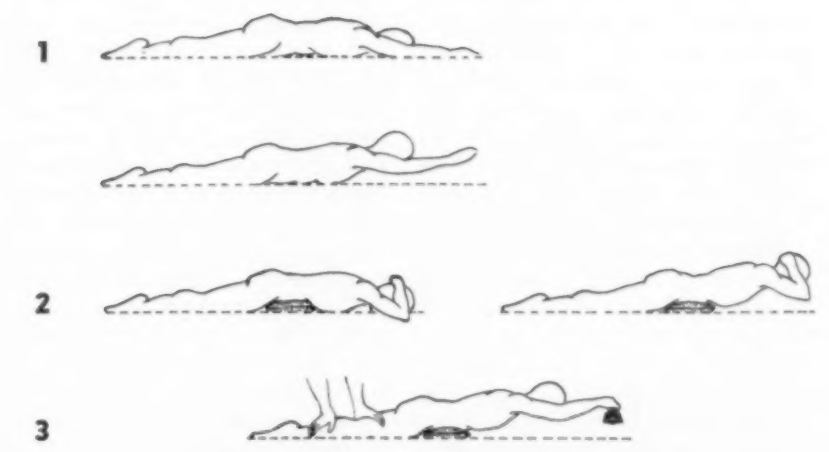


Fig. 3. Exercises to build upper back muscle power.

branch vertical (normal 165 degrees).

We have thereby arrived at an easy form of notation which in a normal person looks as follows: B— $\frac{10}{10}$ A—$\frac{10}{10}$ $\frac{90}{}$ H—35 BH-t; legs equal; angle 165. $\frac{90}{}$

This can be of great value in planning therapy and following its results.

There are two aids to examination which can be quite helpful. One is the proper use of Ethyl chloride spray. This substance, if sprayed on a tender area, especially overlying a tense muscle, until a frost is observed, will permit examination of the underlying structures and occasionally may even relieve an acute muscle spasm completely. The other test is the procaine infiltration or its variant, the saline-procaine test. If the injection of procaine into a tender spot relieves the radiation of the pain, and if the pain does not recur in identically the same spot, triggerpoint disease may be inferred. If it does recur, underlying disc or joint disease should be suspected. In the variant of this test, one first injects saline subcutaneously. If this brings immediate "relief", a functional disorder is probably the cause. If saline does not help, but procaine does, a somatic disorder is present, and if neither helps, conversion or malingering must be suspected.

Differential Diagnosis The foregoing sections have contained many of the points usually included under the heading of differential diagnosis. It is not within the scope of this paper to give full treatment to this topic. The medical aspects are well known to all of us, while the rare but complex orthopedic diseases are not of general enough interest. However, several matters need special stress.

The first is the diagnosis of the herniated intervertebral disc. This entity, although it constitutes a minority of back aches, is important due to its neurological aspects. Classically, the history is one of back injury sometime in the past, with occasional local low back pain on several occasions since then, and, finally, the appearance of sciatica. This history, however, may be duplicated by the muscular deficient back, which has finally arrived at the stage where radiation is a large factor. If at this time neurological symptoms (paresthesias, numbness) or signs (diminished sensation or reflexes) appear, the diagnosis is that of a disc until proven otherwise. The real problem lies in making the diagnosis before neurological signs or, if possible even before radiation has appeared. This can never be done with certainty without myelography (a dangerous procedure which should be reserved for cases considered for operation). But an attempt can be made on the basis of Lasègue's sign, hyperextension of the back as described above, severe tenderness directly over the intervertebral space, increase of pain on jugular compression with a history of increased pain with coughing (not diagnostic by itself), and, occasionally, with a positive reverse Queckenstedt test. This latter procedure is done with a needle and manometer in L2 and another needle in the sacrococcygeal space through which saline is injected in 5cc. quantities. These injections increase the pain and the pressure response on the manometer may be delayed or small. Occasionally xanthochromia and mild elevation of spinal fluid protein is found,

but in these cases tumor must be strongly suspected.

The next diagnosis to be discussed is muscular deficient low back. Due to our particular way of life, our back and other muscles are poorly developed, sitting shortens our hamstrings, and we get along on minimal effort. At some point a trivial strain such as lifting a suitcase, bending over or rapidly changing our position takes us beyond the capacity of our poor musculature. The result is a pain which further limits our mobility, thereby reducing our muscular efficiency still more, making it susceptible to even lesser strains. And so, a vicious cycle begins which leads to the so-called chronic back, which is frequently mistaken for serious orthopedic disability. Such a history, along with poor results in the muscle tests listed above, leads one to the diagnosis of muscular deficient low back, which, in our society, makes up over 70% of low back pain.

We now arrive at the pain due to tension syndrome, the triad of fibrositis, myositis and triggerpoints, all of which may be found in conjunction with muscular deficiency or without it. These patients are usually emotionally tense, with history of familial or business difficulties, are most frequently women in their thirties, often from the higher levels of financial society. Aside from personality evaluation, the diagnosis is made by palpation and rolling of subcutaneous tissues which are very tender and frequently indurated. This entity, fibrositis, is most frequently found in the lumbosacral area and along the fascia lata. The next maneuver, flat hand palpation of the muscles, will elicit tenderness in myositis or the associated muscle spasm. This is most frequent in the erector spinae group, over the iscial tuberosities and below the posterior iliac spines. With the use of fingertips one may frequently discover local nodular points of deep tenderness within these muscles, pressure on which reproduces the patient's pain pattern, even including such distant radiation as down the leg. This property imbues these nodules with the name "triggerpoints".

Another entity to be mentioned is the pain of muscle imbalance due to uncorrected childhood scoliosis and adolescent kyphosis, which, along with the insufficient back are really problems in preventive medicine to be undertaken by every practitioner of medicine.

The purely psychosomatic backache of the compensation patient, the malingerer, the conversion hysteric, and the hypochondriac will make themselves be recognized by careful observation of the patient's movements, careful examination, and lack of response to adequate therapy.

The many medical diseases which may produce backache, as well as the rare othopedic disorders will not be mentioned here. The conditions outlined above represent well over 90% of low back aches. Knowledge of these and the medical diseases well known to the practitioner will make him well able to accurately diagnose many of the problems which have been shipped from doctor to chiropractor to osteopath to doctor without an answer.

Treatment The literature on therapy of low back pain is filled with a wilder variety of suggestions and claims than is that for any other disease. They range from the injection of all sorts of substances (such as camphor and salicylates) into the painful areas to the

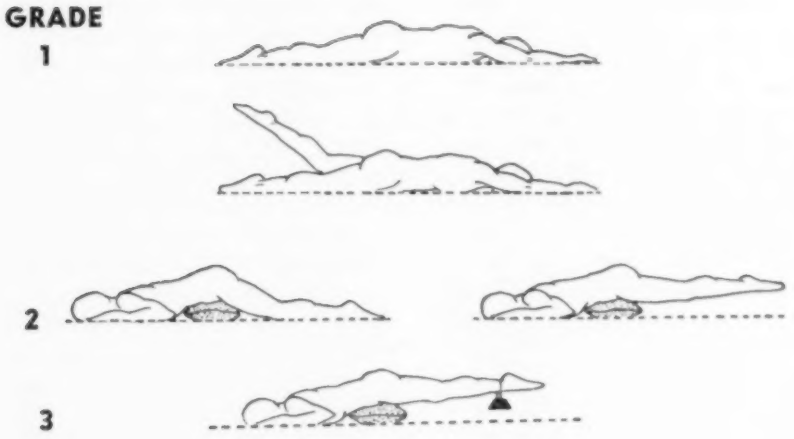


Fig. 4. Exercises to build lower back muscle power.

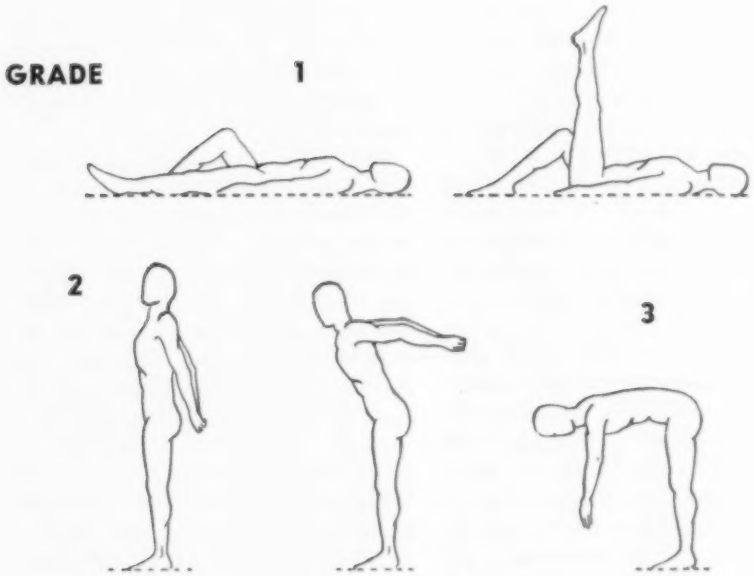


Fig. 5. Exercises to increase elasticity of hamstrings and back muscles.

Figs. 1 & 5 are adapted from Principles of Therapeutic Exercises by Hans Kraus, M.D. Courtesy of Charles C. Thomas.

application of fuming hydrochloric acid to the skin over these areas. Perhaps a good summary of the situation is found in an essay by Sir Arthur Hurst, written when he became somewhat confused by the various claims: "It will be unnecessary to use any of the forms of suggestion hitherto in use—injection into the nerve by the neurologist, the intervertebral space by the expert, or as near the nerve as he can get by the less expert, into the myalgic spots by those who believe in them, manipulation or a plaster case by two rival schools of orthopedic surgeons, removal of herniated intervertebral disc by the neurosurgeon and the lateral intervertebral joints by Bankart (a prominent surgeon of his day), or the application of fuming hydrochloric acid by the magician." This is of course an extreme view, since some of the above have become accepted as excellent therapy, but it conveys the idea of the status of this subject.

A form of therapy that deserves special attention is that of bedrest. In the more recent literature it becomes evident that bedrest is falling more and more into disrepute. The early ambulation of the back patient (with some notable exceptions) is being stressed for its curative and preventive (of chronicity) value. The exceptions are certain fractures (but certainly not all), herniation of a disc with neurological symptoms, and severe injury with unbearable pain. Even in these conditions, physiotherapy should be begun *in bed* from the first day, and mobilization should start as soon as possible.

The discussion of therapy, as that of differential diagnosis, will be limited to the most common and most important forms of low back pain.

It has recently been estimated that between 4 and 8% of herniated discs should come to surgery, chiefly those with neurological signs and those with intractable pain or frequent recurrence of pain. This low figure is due in great part to the overdiagnosis of discs, which unfortunately is a carry-over from the days when every low back pain was called a disc. If tighter criteria are used, including preoperative myelograms, closer to 30 or 40% of truly herniated discs will sooner or later be removed. This procedure is one, which, when in the hands of a competent neurosurgeon, has excellent results, especially if the patient is mobilized and rehabilitated from the day of surgery on. The only role played in the therapy of this disorder by the orthopedic surgeon is in the rare case of failure due to the production of an unstable spine (frequently the result of inadequate rehabilitation), in which case fusion of the unstable segment becomes necessary. This procedure, in the majority of cases, has poor results and frequently leads to a chronic back problem. Those cases, in which the criteria for surgery (mentioned above) do not exist, are treated with an initial period of bedrest with enough movement to keep the patient limber, and quickly followed by a program of backstrengthening exercise to attempt to prevent a future recurrence. This sequence is more frequently successful than is commonly admitted by the neurosurgeon. The use of traction (here, as well as in other conditions) has been shown to achieve but one object, that of keeping the patient at bedrest in more or less one position. It does nothing to promote recovery of the patient, and is best used in preoperative cases in whom

movement elicits excruciating pain.

There are those who advise the permanent wearing of braces, corsets, belts, girdles, or other supports in the treatment of this, as well as other low back conditions. The use of these is probably contraindicated in all but those states where certain destruction or fracture of the spine is the main problem. In all other entities, it defeats the purpose of good therapy, in that it relieves the already underused muscles of their supporting action, and thereby increases disability when the supporting device is finally removed. It is, however, a useful adjunct while the muscles are being strengthened. The best support possible is that produced by the back muscles themselves. If they are incapable of doing so, intensive muscle building exercises will enable them to carry their load.

In the treatment of pain due to muscular insufficient low back, the first principle is that of relaxation of muscle spasm. This is achieved by ethyl chloride spray and relaxing exercises, especially that of having the patient lie on his side with knees slightly flexed; he then pulls the upper knee to his chest and gently returns it to its former position. This maneuver is repeated three times on each side, and, in the case of acute muscle spasm, is repeated every half to one hour until the acute situation subsides. (Fig. 1). The much more difficult phase of the treatment is the rehabilitation of the weak and shortened muscles. The order of these is determined by the tests described in the formula above. Stretching exercises are best given at a later time if tightness and weakness are combined. All exercises are gradually built up (Fig. 2 to 5). In very weak patients, muscles are warmed at first with diathermy, which is discontinued when the patient becomes strong enough for a longer program. In case of "jelling" pain (a nonspecific symptom), i.e., pain at transition from rest to movement, histamine or Mecholyl iontophoresis may be of help. The principles of gradually increasing exercises and special emphasis on local points of weakness must be followed.

The patient usually requires two to three office treatments a week with a daily home program prescribed, which also builds up from several minutes to a half hour twice daily. In all cases return to normal activity must be gradual, there never being any abrupt change of any kind. This, incidentally, holds true for weaning a patient from a mechanical support or from bed rest as well.

The therapy of the various aspects of the tension syndrome must, of necessity, include the sympathetic ear and word of minor psychotherapy. Trigger-points, if present, are best treated before any exercises are instituted. The treatment of these is as follows: The exact spot is marked on the skin with a needle scratch (cross) for follow-up purposes. The area is sterilized, then with the use of ethyl chloride a 19 or 20 gauge needle is inserted. With procaine preceding it, the needle locates the point, at which time the patient will experience a reproduction of his pain pattern. With the constant expression of procaine (total of 10 to 20 cc), the point is repeatedly needled until there is no more resistance to the insertion of the needle. The patient will usually have an ache in the area for about 24 hours, controlled by salicylates, and then will either be rid of a good amount of his

pain pattern or, if not, one or more smaller triggerpoints will now be palpable in the surrounding area which it had been impossible to feel previously. The areas of radiation from these points have been excellently mapped out by Travell.

The treatment of fibrositis consists of a gentle rolling or pinching of the subcutaneous tissue. This procedure is at first quite painful, but may be made less so by preceding it with 15 minutes of infra-red radiation. This massage is done at the beginning of each treatment as long as the fibrositic element persists (usually one to two weeks).

Myositis responds rather quickly to deep kneading massage, best done in the normal direction of the muscle fibers. Local points of spasm can be broken up with point massage.

Since these conditions frequently coexist with the muscular deficient back, it is important to begin therapy for the latter as soon as feasible by the methods outlined above.

Of course, great attention must be paid in all cases to difference in leg length and faulty foot mechanics which must be corrected by supports and wedges if therapy is to be successful. The patient's working habits and outside activities must be discussed and changes prescribed as necessary.

As a final point, let it be remembered that back pain or sciatica never killed anybody, so far as can be discovered in the literature; therefore, our methods of treatment should never endanger life.

Summary

This paper has attempted to summarize current thought on the frequently confusing and confused theme of low back pain. Special stress has been placed on those entities which compose the vast majority of backaches. Attention to these will eliminate a great deal of the general lack of knowledge and of interest in this topic, and will keep the patient from seeking help from less scientific, and frequently harmful, pseudoprofessional treatment accorded by the chiropractor and his fellows.

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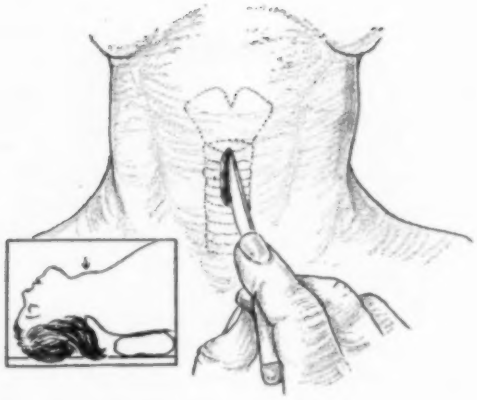
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Clini-Clipping



Emergency tracheostomy with pen knife. Insert shows operating position. Head is dropped by elevating the shoulders.

Arteriosclerotic Syndromes

Niacinamide Hydroiodide (Parenteral) Treatment

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The arteriosclerotic syndrome has been ascribed to endarteritis deformans,[1] degenerative hypoplastic disease,[1] cholesterol accumulations,[2] atheromatosis,[1] loss of arterial elasticity, and formation of cholesterol-containing atheromatous soft plaques.[3]

Whatever the exact cause it is true that many more persons now suffer from the syndrome. This is due to our aging population based on greater longevity which has been brought about by more advanced Public Health techniques and improvements in specific medical treatments.[4] Impairment to tissue of various organs, whether it is based upon diminution of blood supply to vital organs,[5] whether of simple origin due to plaque formation, or due to infiltration with calcium salts, causes certain clinical symptoms usually associated with arteriosclerosis.[6] These signs and symptoms are divided into psychic reactions[7] and physical (circulatory) reactions.[6] The most important signs and symptoms to measure the effects of medication on this syndrome are:

Psychic Reactions

1) Emotional Instability
2) Depression
3) Confabulation

Physical Reactions

1) Vertigo
2) Headache
3) Vague Abdominal distress[8,9]
4) Insomnia
5) Loss of appetite
6) Hypertension

Medication Used The medication used was Niacinamide Hydroiodide in combination with iodides. The use of the parenteral form has been found to result in certain advantages.[10] The parenteral medication used was given twice weekly for a period of 2 months. Intramuscular or slow intravenous injections of 5 cc. of the medication* were

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given. This was followed by subcutaneous administration of a smaller dose twice weekly for a period of 2 months.

The mechanism of action of niacinamide hydroiodide is explained[6] in the same manner as the use of the hydrohalides of niacinamide for the prevention of:

1) Pellagra
2) Bromism
3) Iodism

Pellagra, bromism, and iodism[11,12] are caused by the poisoning of co-enzymes I and II.[13] These co-enzymes promote cellular oxidation and their poisoning is prevented by the niacinamide hydrohalides, the specific detoxification occurring in accordance with the particular halogen used. Thus the pyridine portion of the niacinamide hydrohalide, being in particularly available form, supplies the integral portion of the enzyme molecule,—the di- and tri-phosphopyridine, (co-enzymes I and II)[14] which enter into essential portions of the Kreb cycle.

The poisoning or deficiency of these di- and tri-phosphopyridine nucleotides causing pellagra, bromism, and iodism, gives characteristic signs referable to the skin and respiratory passages. Their occurrence is most common with repeated administration of bromides or iodides.[5] These symptoms are catarrh of the respiratory passages, erythematous patches, papular eruptions, and gastric distress.[5] None of these consequences have been experienced with the use of niacinamide hydroiodide in combination with iodides.

Recent experiments have shown that pellagra, bromism, and iodism are related to porphyrinuria[15,16,17,18,20] by impairment of the co-enzyme mechanisms.

Procedure Patients were given a routine physical examination. In addition, particular note was made of those signs and symptoms related to the arteriosclerotic syndrome. Thus, the blood pressure; the weight in relation to the ideal weight for that age and height; the presence or absence of arcus senilis; enlargement, sclerosis, or calcification of the aortic arch as revealed by roentgenograms; and rubra were noted. The above enumerated points are used as diagnostic points.

These points, found by experience to respond to tonic medications, were carefully elicited from the history, signs, and symptoms. These were evaluated for comparison before and after treatment. These points are:

Psychic Reactions

1) Emotional Instability
2) Depression (particularly involutional change)
3) Disturbed orientation
4) Confabulation

Physical Reactions

1) Vertigo
2) Headache
3) Vague abdominal distress
4) Insomnia
5) Loss of appetite
6) Excessive fatigue
7) Hypertension

After treatment for 2 months with parenteral niacinamide hydroiodide therapy some alleviation of the condition occurred in every case.

Clinical Material The present group consisted of 50 cases, the average age being 61.3 years. The average height

* Cole's Iodo-Niacin ampuls 5 cc., containing niacinamide hydroiodid 50 mg., sodium iodide 20 mg., niacinamide 20 mg., dextrose 5%, chlorobutanol 0.45%, and water for parenterals q.s.

was 65 inches, and the average weight 157.3 pounds. There were 23 males and 37 females in the group.

Results

Emotional Instability Out of the group of 50, 4 showed some degree of emotional instability. This was absent in all cases following treatment for a period of 2 months.

Depression Emotional depression was present in 30 cases before treatment. After treatment it cleared in all cases.

Confabulation This sign was not found in the group.

Disturbed Orientation was present in 12 cases. This was cleared in every case after treatment.

Vertigo was present in 24 cases before treatment. After treatment it had cleared in every case.

Headache was present in 10 cases before treatment. After treatment it was significantly less in all these cases. This does not mean that headache did not occur after treatment, but this symptom was significantly reduced in intensity or number.

Vague Abdominal Distress was present in 22 cases before medication. After medication it was significantly lessened in all cases.

Insomnia was present in 8 cases before treatment. After treatment insomnia was significantly reduced in all of the cases.

Loss of Appetite Four cases complained of loss of appetite before treatment. Appetite was significantly increased in two of these cases after treatment.

Hypertension was found in 2 cases before treatment. There was no change after treatment.

Excessive Fatigue was present in 20 cases before treatment. After treatment the degree of fatigue was significantly reduced in all cases.

Eye Ground Examinations No examination was conducted in this group. Reports received[19] of another group, examined by an ophthalmologist, verify that significant changes have been noted signifying a favorable influence on retinal vessels.

Summary and Conclusions

1. The signs and symptoms of arteriosclerosis which are partly reversible have shown significant improvement.

2. The rationale of the use of iodides containing, in combination, the integral part of the molecule of the co-enzymes to prevent iodism is explained.

3. The absence of iodism caused by the use of niacinamide hydroiodide has been clinically demonstrated in cases treated parenterally for from 2 to 4 months without untoward effects.

4. No untoward effects have been demonstrated.

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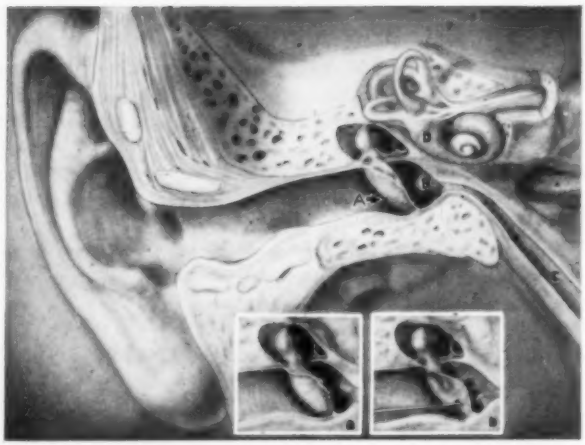
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Clini-Clipping



Anatomy of the ear showing relation of tympanic membrane A to the tympanic cavity B, the Eustachian tube C, and the labyrinth D. a—Retraction of the tympanic membrane . . . b—Cutting adhesions.

Kartagener's Triad

Dextrocardia with Situs Inversus, Bronchiectasis and Sinusitis with Myocardial Infarction (Case Report*)

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The triad of situs inversus, bronchiectasis and chronic sinusitis was first reported by Kartagener[1] in 1933 and since then, many cases of this triad have been reported.

Up until the present day, no cases of myocardial infarction with Kartagener's triad have been reported in the literature, though the association of dextrocardia with rheumatic heart disease[2] and bronchogenic carcinoma[3] has been reported.

Case Report The following is the report of a case of Kartagener's triad with myocardial infarction and hence is of interest:

G. P., a 59-year-old white male, was first seen by one of us (N.F.) on March 20, 1953, with the chief complaints of cough and wheezing since October 1951. In October 1951, he was told he had bronchial asthma and was studied from an allergic standpoint. Skin testing revealed sensitivity to dust. In December 1951, he developed pneumonia with subsequent aggravation of his symptoms. His past history revealed pneumonia in 1933. He had given up smoking in 1951.

In March 1953, the physical examination revealed an emphysematous chest, crepitant rales at both lung bases and roentgenological evidence of bronchiectasis. He also had sinusitis and dextrocardia with complete situs inversus (Fig. 1).

He was placed on a regimen of bronchodilators, aerosol nebulization, antibiotics and corticosteroids with marked amelioration of his symptoms.

On December 10, 1954, while walking in the street shortly after a heavy meal, he suddenly developed a "grabbing" pain in the right posterior chest near the scapula. The pain gradually became worse and radiated to the right anterior chest. There was no radiation to the arms, neck or jaw. The pain was associated with pallor, cold perspiration, apprehension and vomiting. He was treated at home symptomatically for a day and transferred to a hospital

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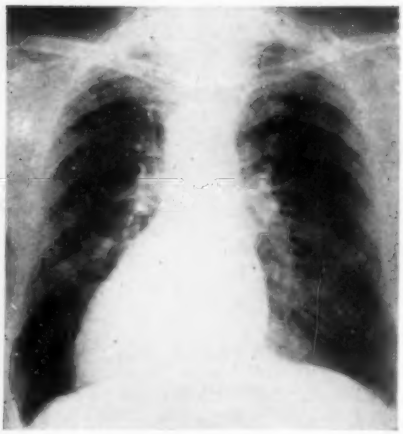


Fig. 1

the next morning. The diagnosis of coronary occlusion was made. His hospital course was marked by periods of fluctuating febrility and the patient was given to understand that he also had pneumonia, which responded to antibiotics. He was discharged after four weeks. While at home, following his discharge, he had another episode of fever which was attributed to bronchial infection. One of us (N.F.) saw him again on February 4, 1955. At that time, he was asymptomatic. The electrocardiogram (Fig. 2) showed remote postero-lateral infarction. No specific therapy was given but he was seen at monthly intervals subsequently. His condition seemed stabilized. On May 20, 1955, he awakened feeling fine, but while dressing, he collapsed and died instantly.

Though no autopsy studies are available, it is safe to assume that the death was due to sudden coronary occlusion.

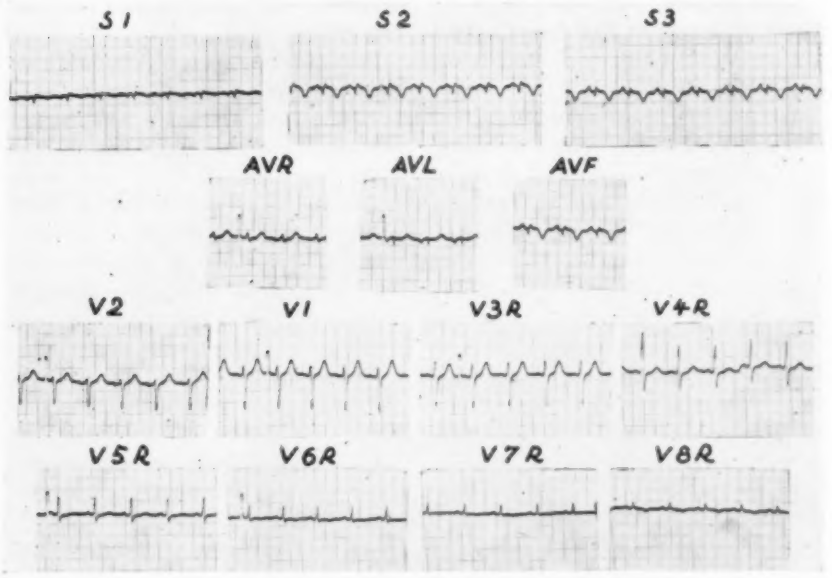


Fig. 2

Dextrocardia with situs inversus was first noted by Severinus in 1643 and is thus one of the earliest recognized congenital heart abnormalities. This is the most benign variety of abnormality and the heart itself is usually free from other congenital abnormalities. There is left-handedness in about 40 per cent of cases. In 1933, Kartagener first stressed the frequency of bronchiectasis and sinus abnormalities and since then, Kartagener's triad has acquired some importance in view of the symptoms associated with it.

The incidence of bronchiectasis occurring in persons with dextrocardia and situs inversus is higher than that in the general population. Churchill and Adams[4] report it in 5 out of 23 cases of situs inversus (21.7%) recorded at Massachusetts General Hospital in 1951, years from 1836-1936, while of the general hospital population over that period of time, bronchiectasis was diagnosed in but 0.3%. This increased incidence suggests a congenital factor in its pathogenesis. However, this view is not accepted by all and some authors have stressed the late onset of the symptoms of bronchiectasis in some cases of Kartagener's triad implicating an acquired nature of the lesion. In the patient reported above, the onset of symptoms of bronchiectasis occurred at about the age of 54, which is not unusual.

Kartagener's triad has a greater significance to a physician than merely the presence of dextrocardia with situs inversus. This is because of the fact that the presence of bronchiectasis in the former contributes a great part to the morbidity of patients with Kartagener's triad and may even contribute to the mortality. It also throws some light on the pathogenesis of bronchiectasis in these people, for it favors the "congenital factor" theory. Cases of Kartagener's triad have been described in twins and siblings, further favoring this view.

In patients with dextrocardia, it is important therefore, to determine whether bronchiectasis is present or not. This can be achieved by doing a bronchogram. Patients showing this triad should be periodically checked and appropriate therapy for bronchiectasis substituted. Prophylactic antibiotic therapy has been advised by some workers. Where possible, surgical intervention and lobectomy or segmental resection may be done and recent reports on these procedures are available in the literature.

Crawford and Warren (1938) reported for the first time a case of dextrocardia with situs inversus with acute myocardial infarction. The interesting feature of the case was the distribution of pain in the right arm and right chest with no radiation towards the left side. There was no evidence of any sinus abnormalities or the presence of bronchiectasis though specific studies for the latter were not undertaken.

Manchester and White (1938), later presented another case of dextrocardia with situs inversus who suffered from hypertensive and coronary artery disease. In this patient, the pain occurred on the left side of the chest, and the electrocardiogram showed an upright T wave in Lead I which suggests a "coronary T" and associated with prominent Q_3 and elevated ST segment in Lead II.

Cain (1945) described another case of situs inversus with angina pectoris in a 33-year-old soldier who developed

anginal pains in the right chest after exertion and whose ECG showed "left ventricular preponderance" but which can be read as "negative" at the present time.

Summary

No reports have recently appeared in the literature about the association of coronary artery disease with Kartagener's triad. The above case shows a history and an electrocardiogram consistent with the diagnosis of coronary artery disease. The pain occurred in the right posterior chest radiating to the right anterior chest wall.

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180 Bowers Street

"MEDICAL TEASERS"

A challenging crossword puzzle for the physician

page 43a

Tape Closure Of Wounds

PAUL WILLIAMSON, M.D.
Albuquerque, New Mexico

For more than 200 years physicians have used sutures to approximate the skin edges in the closure of incisions and lacerations. This process has become so well ingrained in professional practice that little thought has been given to alternate methods. This is a preliminary report on a research project designed to find, if possible, a better method of wound closure.

As a beginning certain facts were listed and a series of goals propounded. The pertinent facts are:

1. Any foreign body in any wound acts as a deterrent to the healing process. This applies to all known types of suture material as well as to 'accidental' foreign bodies that are left in place.

2. Any sharply localized external pressure applied to a wound edge results in additional scarring. An example is the "cross hatch" scarring so often seen in sutured wounds.

3. Time is a major factor in wound closure. Not infrequently it takes as many minutes to effect satisfactory laparotomy closure as it does to perform necessary intra-abdominal manipulations.

4. In small lacerations cost is a factor. Sutures are expensive to prepare for use. In our own clinic we checked as best we could several years ago and calculated that a "suture tray" cost over $1.50 to put up and sterilize. The cost is probably higher now.

5. Even with good local anesthesia sutures are sometimes painful to insert and nearly always are the source of some postoperative pain.

In attempting to create a new method of wound closure certain criteria to be met were set up based on the facts above. The ideal material should eliminate insofar as is possible the bad features of sutures we have enumerated. These were the goals:

1. A material that holds wound edges together from the outside, eliminating any foreign body in the wound.

2. Any external pressure applied should be distributed over a relatively wide area of surface to minimize localized pressure and the resultant cross hatch scarring.

3. Material for closure should be such that it can be quickly and accurately applied. Its use should result in a definite saving of time in wound closure.

4. It should be cheap and easy to produce.

5. Its application should be painless.

Recent advances in the chemistry of synthetics suggested that this field



Figure 1

should be explored in looking for the ideal product. Also, the advances in adhesives have been extraordinary and we felt that a satisfactory skin adhesive could be developed. To date we do not have a perfect process but, even so, we feel that the present material under study is so much more satisfactory than sutures that a few preliminary reports are justified. Several have appeared.

At present we are using a film of the polyester series that looks much like the plastic material in which foods are sometimes packed. This is cut into rolls ranging in width from one-half to three inches.

One side of the resultant tape is coated with a special skin adhesive developed by Minnesota Mining and Manufacturing Company especially for the project. This adhesive is essentially non-toxic (no reported reactions), seemingly non-allergenic, and does not support bacterial growth.

As far as we now know—although only preliminary studies have been done—the tape is self sterilizing. It has been used in over 1,000 cases with an incidence of infection considerably lower than that found in a comparable series of sutured wounds. This at least lends much practical credence to the self-sterilizing claim.

The final product now in use looks much like the ordinary Scotch tape which can be purchased in any drug store. It meets the criteria specified above like this:

1. Wounds are held together from the outside. There is no introduction of any foreign body.

2. There is no localization of external pressure. A large area of skin surface is beneath the tape. Cross hatch scarring is completely eliminated.

3. It can be quickly and accurately applied. Time saving amounts to 80 percent in many wounds.

4. It is cheap and easy to produce.

5. Application is painless. This is a particularly great advantage in treating wounds sustained by children.

Our present routine for lacerations is as follows:

The wound is washed with soap and water. No antiseptic of any kind is applied. This, in itself, represents a major improvement in the process of wound closure.

If small foreign particles are present they are brushed away with an artist's brush of camel's hair. Extreme care is used to avoid wiping or traumatizing the wound in any way. If there are small bits of dead tissue these are im-

mediately trimmed away with scissors.

The skin surfaces surrounding the wound are then carefully dried because the tape will not stick well to a wet surface. Tape is then applied to the most mobile side of the wound, like this:

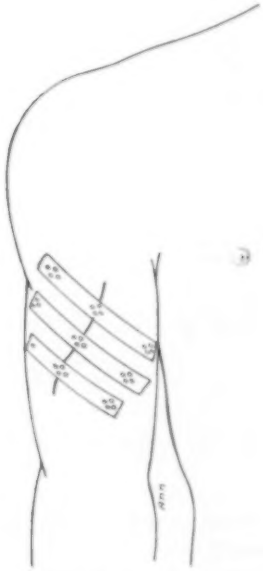


Figure 2

By pulling on this tape, wound edges are brought into exact apposition and the closure finished, like this:

Notice that there are holes in the tape every few centimeters. These are placed directly over the wound to allow free egress of all the wound secretions.

An ordinary gauze dressing is applied and the wound let strictly alone for four or five days. When the gauze dressing is removed the plastic wound tape usually comes away at the same time. Often new plastic tape is applied and, other than this, the wound left open.

Major surgical incisions are closed by the same method eliminating, of course, the washing.

Results to date seem unbelievably good. There is a distinct speeding of wound healing. It has been shown by careful biopsy analysis (Done by Doctor Theodore Gilman of South Africa, not by us) that sutures act as foreign bodies and definitely retard the healing of wounds.

When this is eliminated healing is much more quickly accomplished. Our clinical impression is that firm attachment of wound edges occurs from one to two days sooner.

By careful use of the tape scarring can be practically eliminated. This is of the utmost importance in facial wounds and the tape has been used in enough severe cases to state specifically that it produces excellent final results.

Application is pain free. In many wounds the use of local anesthesia can be eliminated and the patient still will have no pain. Children and mothers particularly appreciate this fact.

Summary

While one cannot say this process is ready for general use as yet we believe that it is far enough advanced to state that it has been shown to be a definite advance in wound closure.

A few research samples of the tape are available to qualified physicians who will report critically on its use. They may be secured by writing the author.

8124 Princess Jeanne, N.E.



The Heart and The Law

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Coronary Thrombosis There is a substantial difference of opinion as to the etiological relationship between coronary thrombosis and trauma. Master and Jaffee[1] believe that under the ordinary traumatic circumstance it is highly improbable that coronary occlusion is a sequential result. Where there is a severe crushing fracture of the chest involving rib fractures involving a contused myocardium there can be muscle injury of the heart within which a thrombus forms.

On the basis of his study of 105 patients, Kapp[2] concluded:

(1) Occurrence of coronary heart disease following trauma is not rare or coincidental,
(2) Trauma is often underestimated as a precipitating or aggravating factor,
(3) Cardiac damage often goes unrecognized,
(4) Trauma may be defined as not only physical, but also emotional stress.

Texon[3] emphasizes the extreme variability of possible relationships between trauma and coronary heart disease. Most medical men will admit that some form of trauma can be a cause of coronary insufficiency. This resembles angina pectoris except that the myocardial ischemia is more severe and the pain more prolonged. In about 95% of the cases of coronary insufficiency the diagnosis can be made by the electrocardiogram alone. In coronary occlusion there is R-ST elevation in the precordial leads and also deep Q-waves. In insufficiency in the lower row of chest leads V1 to V6 there is marked R-ST depression.

White[4] has stated that coronary

thrombosis with myocardial infarction is not the result of trauma based upon the experience of many observers of many hundreds of cases except in a few cases of coronary atherosclerosis.

Some medical authorities however[5] admit that the so-called steering-wheel cardiac injury is the direct or substantial cause of certain serious heart damage.

Master's studies[1] reveal that effort can precipitate coronary insufficiency but not coronary occlusion. He showed that only two percent of the attacks of coronary thrombosis occurred while patients were engaged in unusual physical activity. Thus the state of activity or inactivity is no factor in the precipitation of coronary occlusion. Further, if effort were a factor then it would follow that most of the attacks would attend during the day-half of the twenty-four hours. However, just as many occur during the night-half with most taking place between ten in the evening and 2 A.M. The sedentary or moderately active portion of the population suffer a five percent higher incidence than the working population. Finally, it is his conclusion that coronary thrombosis is a complication of long-standing atherosclerosis, and that effort apparently does not precipitate it.[1]

Levine reminds us that at autopsy one single coronary vessel is involved with the remaining giving evidence of no pathological change whatever.[6] Is it possible "that 40 years of torsion, of motion, of twisting, in that vessel because it was born with a little bit of excess turn or curve causes this vessel to act as a locus minoris resistentiae to the general factors there and not elsewhere?"[6] It is Levine's great contribu-



tion in the treatment of these cases that he has shown that the output of the heart is 23% greater in the recumbent position than when the patient sits in a chair. Thus the heart rests more if the patient sits in a chair with his feet down.

Atherosclerosis according to Keilner[7] is the cause of coronary occlusion in the vast majority of the cases. This, according to the best view is a disease of lipid metabolism. The lipid, which comes from within the lumen of the vessel, permeates this vessel wall. Normally there is circulation of a considerable amount of protein across the vessel wall which is removed by way of the lymphatics and the vasa vasorum. Under some incompletely understood conditions not all the lipid passes through; some remains behind. Perhaps there is an excessive amount in the blood, or a large amount of unusual lipids, such as beta lipo-proteins of the Sf Io-150 particles of Gofman. In other instances damage of the vessel wall interferes with the normal removal mechanism, and lipid remains behind.

By what mechanisms does athero-

sclerosis cause occlusion of a coronary artery? Briefly, this may occur in three ways:

(1) By a hemorrhage into the atherosclerotic plaque,
(2) The atherosclerotic plaque itself produces narrowing and occlusion of the lumen,
(3) Thrombosis of a vessel with an atherosclerotic plaque.

Thus occlusion of a coronary artery is a complication, a late complication of atherosclerosis.

Whereas formerly it was thought that coronary thrombosis and atherosclerosis were the inevitable consequences of aging, now the disease is thought to be one of lipid or lipo-protein metabolism according to Gutman.[8] The atherosclerotic plaque is composed very largely of cholesterol in free and combined form. The largest proportion of cholesterol is synthesized in the body from a simple true carbon compound, namely acetate, acetic acid. Acetate is derived from food-stuffs, from carbohydrates, proteins and from fat, and particularly from fat. Every article of the diet is a potential precursor of cholesterol and therefore of atherosclerosis. But there is no method of dietary regulation or restriction that will completely obliterate all formation of cholesterol. But restriction of fat and total calories does seem to diminish the rate and quantity of cholesterol formation. This is a measure that all can undertake in the practical management of the disease.

In those cases where disputed relationship exists between trauma and coronary heart disease Kapp[2] has established the following three tests in this regard.

(1) Did trauma, physical effort or emotional strain, not compatible with usual occupation or habits, occur before the acute coronary heart disease?
(2) Did cardiac symptoms (such as severe pain in the chest, shortness of breath, weakness, pallor appear immediately after the alleged injury or at least develop gradually and continuously within a few hours or days?
(3) Was the diagnosis of coronary heart disease corroborated by electrocardiographic evidence?

Kissane pointed out in 1940[9] that severe muscle damage can occur to the heart without any apparent injury to the ribs or chest. In a more recent study[10] he pointed out that more cases of traumatic heart disease are overlooked than diagnosed by mistake.

Some authorities believe that the "time" factor is the final test in these cases. Did the symptoms or cardiac disability appear immediately or soon after the injury or progress in a matter of a few days.[11] If the answer is yes then causal relationship is probably established; especially in proof of aggravation of preexisting heart conditions. Finally, it should be remembered that the more severe the injury to the chest the more likely is the heart affected.

Legal Implications Involving the Heart In April 1952 flood waters from the Mississippi River entered defendants' basement.[12] He had leased two gasoline driven pumps to expel the water but no measures were taken to remove the exhaust fumes from the building which were eventually released in the basement. The plaintiff delivered an additional pump in the face of rapidly rising water and the general atmosphere was one of excitement and emergency. He

attempted to get the new pump into operation but it developed much difficulty from 2:30 until 4:00 p.m. The new pump ran for an aggregate of one half hour but the others were in operation. At 4:30 while still attempting to locate the mechanical difficulty, plaintiff became dizzy, felt a cramped feeling in his chest, became sick to his stomach and dropped to his knees. He did not lose consciousness. He stayed until eight p.m. but then on his way home he was seized with a dizzy spell and a contraction in his chest. He was given oxygen. A week later he suffered a heart attack and was taken to the hospital and his ailment was diagnosed as myocardial infarction. There was substantial expert testimony to show that the heart ailment was caused by carbon monoxide gas.

He who runs a machine is charged with notice that carbon monoxide gas is being discharged from such engine and ordinary care requires he take affirmative action for its expulsion. It was held in this case that plaintiff's heart condition was produced by carbon monoxide poisoning.

Anoxia is lack of oxygen to the heart muscle which in this type of case is the basic cause of coronary occlusion. Where the coronary artery is already diseased as by arteriosclerosis the oxygen flow is diminished. It does not take much more of a decrease in oxygen to precipitate an acute coronary occlusion in such cases.[13]

Where the insured died after a fall on the golf course due to rupture of the aorta it was held not to be accidental death so as to come within the double indemnity clause of the insurance policy.[14]

Levine points out that if after legal trauma the symptoms and disability increase in a plaintiff with a prior asymptomatic, non-disabling heart condition then it is fair to assume aggravation.

Recovery was allowed for emotional excitement over traffic argument aggravating a prior arteriosclerotic heart disease.[15] Here the theory is that legal trauma is a substantial factor in the aggravation of heart failure in that the already weakened heart tends to be overtaxed by the further exertion of new trauma.

Prior arteriosclerotic heart disease was aggravated by an automobile accident. The medical testimony was that the shock of collision was the proximate cause of the resulting heart failure. The 1936 verdict for $10,000 was upheld.[16]

In a recent case in Connecticut where automobile trauma[17] aggravated coronary heart disease recovery was allowed.

Workmen's Compensation and the Heart In these workmen's compensation cases if one can prove:

(a) An unusual medical result following usual exertion at work, or

(b) An unusual medical result following unusual exertion at work, then medicolegal liability generally can be proven.[18]

In New York State more than a hundred million dollars are paid out annually in compensation to workmen.[19] A substantial amount is concerned with payment of cases of coronary occlusion which occur during working hours and are allegedly caused directly by unusual effort or indirectly by the specific nature of the work. The majority of the sixty-four million people employed in the United States is in the coronary age group. About forty percent of the attacks of coronary thrombosis occur in people under fifty years of age. But

eighty to ninety percent develop in those under sixty. Since increasing numbers of people who are older are working in industry it is inevitable that many of them will die on the job.

The most convincing evidence that such death or disability arose out of employment is where there is unusual exertion on the job in an employee without prior heart disease followed immediately or shortly thereafter by death or severe heart disease.[20]

Aggravation of pre-existing heart disase which gives rise to disability or damage for the proof of the latter one should show:

(1) What type of heart disease plaintiff or deceased had

(2) Considering this type, what were the medical probabilities that such type of heart disease would be affected by the alleged legal trauma.

Since the possibility of rupture of aortic aneurysm exists, prior syphilitic heart disease is susceptible to aggravation. However, the fact that deceased predisposed his heart to such death or disability in Florida would bar his recovery.[21] That state's statute on workmen's compensation provides that death due to aggravation of a venereal disease does not arise out of employment. In Louisiana where no such statute exists, recovery on the same facts was allowed.[22]

Where there was aggravation of prior hypertensive heart disease by trauma of steel valve at work, recovery was allowed.[23]

Non-physical trauma of legal origin may aggravate a prior heart condition. Recovery was allowed because of aggravation of prior heart ailment from gas erupting from defendant's lines.[24]

In McMurray's case[25] he had been employed by the registry of motor vehicles of the Massachusetts Commonwealth for about 22 years. At the time of the 51-year-old decedent's death, he was investigating an unusual fatal accident which involved the death of a Mrs. Plouff whom he knew. She was riding in a car in good mechanical condition with her son who was about twenty years old and an epileptic. There was a small dog on the front seat with her and her son. The car left the highway, struck a cement abutment, and went over the cement dam into Green River. The woman drowned but the son was rescued and taken to a hospital. There was some question as to who was driving and whether her death was result of suicide or accident. The decedent interviewed the son which proved to be depressing. Later he went to the home of a lady who was supposed to have known something of the circumstances. He was seated in a chair and after he was there five or six minutes he suffered an attack and died. The cause of death was coronary thrombosis. The decedent was disturbed on the day of his death because of the distressing interview. The investigation imposed upon him was a "nerve wracking job" of making the decision as to whether the deceased woman had committed suicide.

His physician had treated him for a heart condition for about a year and advised him to avoid any mental or physical stress. The doctor testified that in his opinion an emotional stress or strain brought about by the investigation he was making hastened or aggravated the pre-existing heart condition and caused death. An expert testified "that an emotional strain can precipitate a heart attack just as a physical strain can if it is a pretty profound



strain." Thus in this case there was found a "personal injury" within the meaning of the compensation act.

Where an employee[26] died from a heart attack suffered during a baseball game played by team sponsored by employer who furnished equipment and uniform bearing its name was compensable as result of injury "arising out of and in course of employment" notwithstanding team was not entered in main schedule and not part of employer's regular league.

Prior endocarditis aggravated by fall on a grate so as to produce death was allowed recovery in workmen's compensation. This was granted under the theory that prior "rheumatic heart disease" may be aggravated by trauma of legal origin.

Contributory Negligence of Plaintiffs with Heart Disease[27]

In ascertaining whether a prior spontaneous heart condition was the sole or substantial cause of death or injury following an accident of legal origin, it is necessary to examine the past history.

(1) Did he have a pre-existing heart condition?

(2) What was the heart condition? Knowing the heart condition did it cause symptoms such as weakness or dizziness which would predispose a person to disabling accidents?

(3) Did the party know that he had a heart condition? Did he know its seriousness? Did he know that he was subject to weakness, fainting spells, shortness of breath which would pre-dispose him to accidents?

Did the cardiac plaintiff exhibit "such a lack of due care" where the substantial cause of the accident is a spontaneous cardiac incident? Contributory negligence is a good defense where the plaintiff had certain symptoms.

Dizziness may pre-dispose an individual to spontaneous accidents.

The pain in coronary occlusion is a variable. It may be so intense over the heart and may cause such weakness and a rapid feeble pulse that the individual is unable to co-ordinate his movements. Further, the diagnostic aids in recent coronary occlusion would put a patient on notice. Here the sedimentation rate is usually elevated as is the white blood count. The temperature may or may not be elevated. The transaminase test may be useful.

Where there is a functional narrowing of the coronary vessels as in the anginal syndrome there might well occur a disturbance of mental equilibrium. There may be marked anemia. At high altitudes there may be enough diminution of oxygen supply that the coronary blood supply is diminished. Inadequately ventilated areas may be important precipitating factors in angina.

Cardiac arrhythmia with its irregular

heart beat may give rise to symptoms. Likewise in heart block the heart may be slowed.

Other conditions in the above category would be: chronic constrictive pericarditis; neurocirculatory asthenia; carotid sinus syncope; rheumatic heart disease; congenital heart disease; syphilitic heart disease; arteriosclerosis and hypotension or low blood pressure.

Summary

1. There is lack of agreement as to etiological relationship between coronary thrombosis and trauma. Authorities hold that it is improbable that the ordinary traumatic circumstance gives rise to coronary thrombosis. Others report that occurrence of coronary heart disease following trauma is not rare or coincidental. Trauma may be defined not only as physical but also emotional stress. Cardiac damage often goes unrecognized.

2. Most authorities agree that some form of trauma can be the cause of coronary insufficiency which resembles agina pectoris except that myocardial ischemia is more severe and pain more prolonged. Effort can precipitate coronary insufficiency but not coronary thrombosis. Activity or inactivity is no factor in the precipitation of coronary occluson.

3. The cause of coronary occlusion is atherosclerosis in the vast majority of cases; this is a disease of lipid metabolism. Formerly thought to be the consequences of aging now the disease is thought to be one of lipid or lipo-protein metabolism. The atherosclerotic plaque is composed very largely of cholesterol which is synthesized from acetate. Every article of diet is a potential precursor of cholesterol and therefore of atherosclerosis.

4. In disputed cases of trauma and coronary heart disease the following three inquiries should be made: did some untoward event occur before the acute coronary disease: did symptoms develop within a few hours or days: was diagnosis corroborated by electrocardiograph?

5. Recovery was allowed where myocardial infarction was caused by carbon monoxide poisoning; it is easier to prove aggravation of pre-existing heart disease or precipitation. Recovery allowed for aggravation of prior arteriosclerotic heart disease as result of emotional excitement over traffic argument.

6. The majority of the sixty-four million people employed is in the coronary age group. Most convincing is the incident of unusual exertion on the job in an employee without prior heart disease followed immediately or shortly thereafter by death or severe heart disease. Where worker died as the result of emotional stress it was found to be a personal injury within meaning of compensation.

7. The cardiac plaintiff may be contributorily negligent if he exhibits "such lack of due care" where the substantial cause of the accident is a spontaneous cardiac incident. Did the plaintiff have a pre-existing heart condition? What was it? And did he know that he had a heart condition?

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133 East 58th Street



WANT A CHUCKLE?

SEE

"OFF THE RECORD . . ."

SHARE a light moment or two with readers who have contributed stories of humorous or unusual happenings in their practice. Pages 15a and 19a.

Clinico—Pathological Conference

Charity Hospital of Louisiana at New Orleans. Prepared by Drs. Emma Moss and Rudolph Meuling.

Patient R.B., L53-119927

A 43-year-old colored male. Admitted 10/6/53.

Chief Complaint: Cramping pains in lower abdomen and watery stools for three months.

Past History: Three months prior to admission, the patient began passing five or six loose watery stools per day, each preceded by lower abdominal cramping pain. After receiving medication from his local physician, stools reverted to normal for four to five days, then became loose again and continued that way until the time of admission. Stools were dark brown, not tarry; there was no blood or mucous. The cramping pains lasted from five to ten minutes and would be relieved by the passage of a stool. Pains occurred within one-half to one hour following a meal; but also occurred at night and were severe enough to awaken him. Pain was localized to the left lower quadrant, without radiation.

Patient's appetite was good but though he had eaten well, he had lost 50 or more pounds in the three months preceding admission. There was no vomiting; and no weakness until a week prior to admission when fatigue in the legs was noticed.

Review of Systems: Several teeth had been extracted about time of onset of present illness. No history of dysentery, syphilis, tuberculosis or other infectious diseases. Patient uses indoor toilet, city water, and pasteurized milk.

Physical Examination: Well developed, poorly nourished, colored male, who appears chronically ill. T 98.2, P 112, R 38, BP 142/90. Mucous membranes pale. Abdomen rounded, distended, tympanitic, and presented diffuse tenderness and slight splinting. Peristalsis was hypoactive. Other examiners felt that the abdomen was distended but soft, and presented no splinting or guarding. Rectal exam revealed good sphincter tone, extreme tenderness, and some question about a friable mucosa. Another examiner felt nothing unusual by rectal exam except for tenderness. Admitting impressions were ulcerative colitis and amoebic dysentery.

Laboratory: Hemoglobin 12.9 gms%., RBC 4.2/mm^3, PCV 41.5 vol.%, WBC 9,480/mm^3, segmented 19, bands 58, metamyelocytes 11, lymphocytes 4. Urine

essentially normal. Stool positive for occult blood and endamoeba coli, but no other ova, cysts or parasites. Serology negative, agglutinations negative for typhoid, brucella, proteus, paratyphoid B. BUN 27 mg%, chloride 512 mg%, ceph floc negative, thymol 2+. Stool culture: no pathogens found. Chest x-ray negative. Barium enema 10/9: diffuse ulcerative colitis involving entire colon and terminal ileum. Should consider amebiasis, chronic idiopathic, and tuberculous colitis. EKG Suggestive of myocardial disease.

Hospital Course 10/9: Patient felt a little better but was still thought to be dehydrated. He continued to have five to six stools per day.

10/10: Proctoscopy was done but report is not available. Following proctoscopy, more pronounced pain developed in the abdomen particularly in the lower quadrant. Examination revealed absent bowel sounds, a tight abdomen, rapid shallow, jerky respiration (90 per minute), pulse 95. At this point, the CO_2 was 40 vol.%, BUN 44 mg%, chloride 526.

10/11: Taken to surgery with a preoperative diagnosis of acute ulcerative colitis with toxemia and questionable perforation. Postoperative diagnosis was acute membranous colitis with multiple local areas of perforation and with large areas of gangrene. A colectomy was done down to three inches above the peritoneal floor of the rectum and an ileostomy was established in the right lower quadrant. The rectal stump was closed and a tube was inserted through the anus for drainage. The peritoneal cavity was washed out with saline; penicillin and streptomycin were injected into the peritoneum. Condition poor at the end of the operation.

10/12: 800 cc. urine since surgery. On intravenous levophed, cortisone and massive doses of antibiotics. Ileostomy appeared satisfactory and was draining pinkish pus. Mucous in the trachea could not be satisfactory aspirated with the usual suction catheter. BP was 100/70, pulse 120-140. By noon tracheotomy was necessary. Temperature 106.8. Serum amylase 104 units. Midnight of 10/12: BP still being maintained with levophed. No jaundice. Total urinary output about 1000 cc. Temperature dropped to 102, and then rose again to 106 prior to death. Urinary output was 1000 cc. per day on both the 13th and the 14th and gastrointestinal suction was 3000 cc. on the 13th and 2000 cc. on the 14th. No further doctor's notes. Nurses notes indicate only that the patient continued to be in poor shape, continued to require levophed to maintain blood pressure, and received whole blood, dextran, penicillin, streptomycin, intravenous aureomycin and cortisone. Patient expired on 10/14.

Surgical Specimen: The specimen consists of a total colon and terminal ileum. A Meckel's diverticulum is present 16 inches from the ileocecal valve. The entire colon is involved with many small areas of gangreen of the entire colon wall. This was present to within 3 inches of the pelvic peritoneum. The entire lining of the colon was replaced with a necrotic, purulent membrane. The small bowel is dilated and presents fibrinous adhesions to the colon. Histologic study reveals massive ulcerative amebic colitis, with gangrene, and multiple perforations. The parasites were found without difficulty.

Pathological Findings These findings will be limited to the pertinent find-

ings. The coronary arteries are sclerotic and tortuous. No myocardial change is noted grossly. However, on microscopic examination, a small area of hemorrhage, neutrophil infiltration and eosinophilic change in the muscle fibers is seen. This occurred in association with a coronary thrombus. The stomach presents four ulcers; one on the greater curvature, one in the fundus and two in the lesser curvature. Histologic study reveals all of these ulcers to be acute in nature. In one of the ulcers amebae were seen. The peritoneum and small intestine showed a fibrin and fibrinopurulent exudate. The surgical connections have been described above. Only 10 ml. of cloudy urine was present in the bladder and there was slurring of the cortical striations of the renal cortex. The microscopic picture was consistent with hypoxic nephrosis.

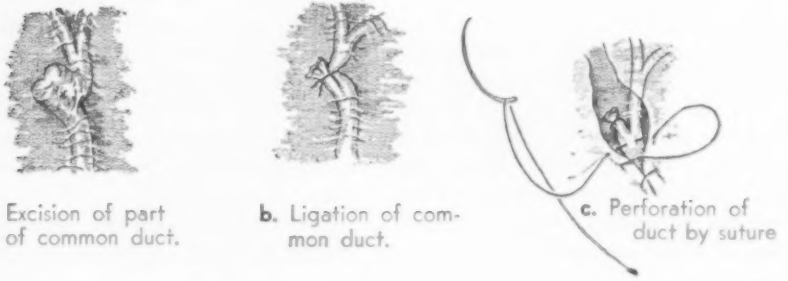
Diagnoses

1. *Fulminant gangrenous amebic* colitis with multiple perforations.
2. Multiple gastric ulcers, amebic, acute.
3. Multiple gastric ulcers, possibly due to cortisone therapy, acute.
4. Postoperative status, total colectomy, and ileostomy.
5. Infarction of myocardium due to arteriosclerotic coronary thrombosis acute.
6. Hypoxic nephrosis.

Summary

The immediate cause of death in this case was an acute myocardial infarction in a compromised coronary system. The ultimate cause of death was the tremendous parasitic involvement of the colon, necessitating surgery in this debilitated patient. This rare form of amebiasis will occur occasionally, diagnosis will rest upon consideration of the possibility and the identification of the trophozoite or cyst of Endameba histolytica in the feces.

Clini-Clipping



a. Excision of part of common duct.

b. Ligation of common duct.

c. Perforation of duct by suture

Dupuytren's Contracture

The deformity now known as Dupuytren's Contracture was first described in 1610 by Plater. Henry Clive referred to it in his lectures in 1808, and Sir Astley Cooper in 1822 wrote that it was due to hypertrophy of the palmar fascia. In 1832, Baron Guillaume Dupuytren was the first to present a detailed description of the pathology — hypertrophy and contracture of the palmar fascia.

The superficial palmar fascia is commonly described in anatomy textbooks as the distal continuation of the palmaris longus tendon, or in the absence of that tendon and muscle (1/6 of cases), as a continuation of the antebrachial fascia. Excellent descriptions are given by Kanavel, Koch, and Mason, by Bunnell, and by some anatomy texts. Suffice it to say in this brief presentation that the portion of the fascia with which we are concerned in a discussion of Dupuytren's Contracture, is a fan-like layer of dense fascia (aponeurosis) which lies just deep to the subcutaneous fat of the palm of the hand and is continuous laterally with the thin covering of the thenar and hypothenar muscles. It is attached to the skin above by innumerable vertical septa and to the metacarpals below by eight vertical septa. These connections serve to hold the palmar skin to the bony framework of the hand. Because of its position superficial to the flexor tendons, nerves, and vessels of the palm, the fascia serves as a protection for these vital structures, which incidentally, run in the tunnels formed by the septa which attach to the metacarpals. The fascia is continued distally into the fingers as four slips, blending with the fibrous sheaths of the flexor tendons, and forming at the metacarpophalangeal (MP) joints, the transverse metacarpal ligament, which serves as a pulley for the tendons. (Figure 1)

The large number of cases reported in the literature attests to the fact that Dupuytren's Contracture is not at all uncommon. Its *incidence* has been estimated to be 1 to 2 percent of the general population. Cases have been reported in patients as young as eleven years and as old as eighty-nine, but most cases are first seen in the late forties and fifties. The condition is rare in Negroes and Orientals; men are afflicted about six times as frequently as women.

Pathology of the disease is hypertrophy and contraction of the palmar fascia. It usually begins as a palpable nodular thickening of the fascia over the ring finger at the distal palmar crease. (Figure 2) Progression is usually slow, but gradually nodules also appear over the fifth and third fingers, and occasionally the second (index). The thumb is very rarely involved. With the hypertrophy there is progressive

contraction of the fascia, and because of the vertical fibers attached to the skin, the skin becomes dimpled. The dermis gradually thickens because of fibrosis, and the dermal blood supply is diminished, the fat and glands are replaced, and the epidermis is thinned. The longitudinal fibers of the fascia which go to the sides of the proximal phalanges eventually contract, producing flexion contractures of the proximal interphalangeal (IP) joints, and later the MP joints. The distal IP joints are very rarely flexed, but are commonly hyperextended because of the disturbance of muscle balance produced by the contracture.

The disease is usually bilateral, although one hand ordinarily becomes affected first, the second hand following in a matter of months or years. Sixty-eight percent of cases of unilateral Dupuytren's Contracture occur in the right hand. Fascial contractures elsewhere are commonly associated with Dupuytren's Contracture, particularly: a. Contraction of the plantar fascia (ordinarily starting on the medial side of the sole, and producing a prominent thick band cavus deformity, but only rarely flexion contractures of the toes), and b. Peyronie's Disease (contracture of the connective tissue septum between the corpus cavernosus and corpus spongiosum of the penis, resulting in lateral deviation of the penis during erection).

Etiology is a controversial subject, but heredity probably plays the most important role. Trauma has been thought to be of minimal importance because more cases of Dupuytren's Contracture are reported in patients who do not do heavy manual work than in those who do. However, many of the patients who do not use their hands for heavy work in their vocations do use their hands for hard work in their hobbies

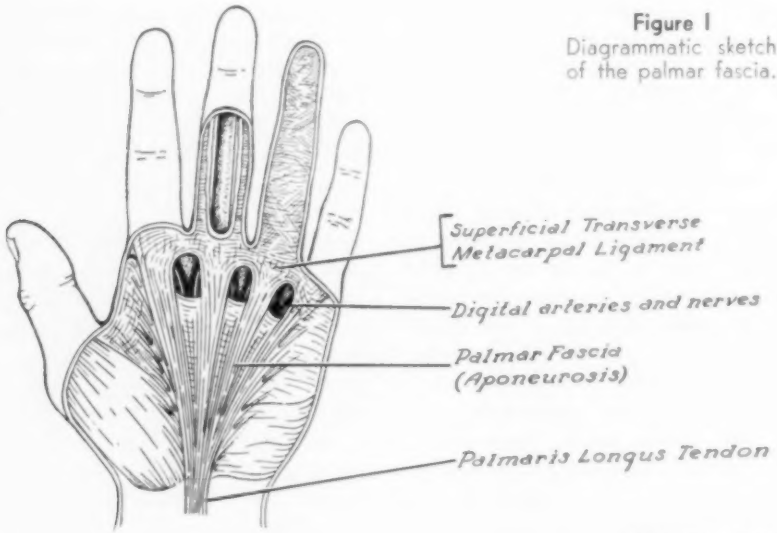


Figure 1
Diagrammatic sketch of the palmar fascia.

and sports. In the light of present knowledge, it appears that persistent trauma may be an etiological factor. Bunnell has called attention to a probable diathesis in these patients which leads to overgrowth, thickening, and contracture of ligamentous tissues of the body as a whole.

Symptoms and Signs are: a. Palpable, and later visible, thickening of the palmar fascia with dimpling of the skin (Figure 2); b. Flexion deformity and progressive loss of use of the hand due to contracture of the fascia and limitation of extension (In late cases the involved fingers may be pulled tightly into the palm, making the hand totally useless) (Figure 3); c. Pain is usually absent, although a dull ache or cramp is sometimes experienced early, during the development of the nodules. Paresthesias are sometimes experienced.

The flexor tendons are not involved in Dupuytren's Contracture, and full flexion is usually possible. The inability to extend the fingers is due not to tendon shortening, but to the fascial and dermal contractures. Joint changes, particularly contracture of the MP and proximal IP point capsules, are commonly seen in long-standing cases, further limiting extension, even after excision of the fascia.

The Differential Diagnosis presents no real problem because of the pathognomonic findings described above. Callus may simulate an early Dupuytren's nodule, but there is no puckering of the skin. With shortened tendons, the distal joints are flexed (with Dupuytren's they are extended), and wrist motions affect the fingers (not so in Dupuytren's). Spastic conditions, congenital and acquired, typically produce extension of the MP and proximal IP joints, and flexion of the distal IP joints (the opposite of Dupuytren's).

Treatment of Dupuytren's Contracture is surgical, but under no circumstances should surgery be performed anywhere but in the hospital, or by anyone who lacks a wide experience in surgery of the hand. The purpose of presenting a discussion of this common disease in a section devoted to Office Surgery is not to encourage office treatment thereof, but rather to encourage its early diagnosis by the general practitioner who first sees the patient, so that he can arrange for prompt surgical correction.

Three basic operative technics have been used through the years. Subcutaneous fasciotomy was the first method attempted, but this has the obvious disadvantage that an adequate division of the fascia cannot be performed blindly without risking injury to the vessels, nerves, and tendons. "Open" fasciotomy has been advised, however, as a preliminary procedure to allow stretching of the skin before fasciectomy is carried out in advanced cases.

Radical fasciectomy—excision of the entire palmar fascia with its septa—is the procedure recommended by many hand surgeons today. Its only disadvantage is a significant incidence of slough of part of the large palmar flap raised for the dissection. This is due to the adherence of the fascia to the skin and the avascularity of the skin produced by the disease process.

The procedure that is again being popularized is limited fasciectomy—excision of the involved portion of the palmar fascia with its intermetacarpal septa and prolongations into the proximal phalanges of the third, fourth,

and fifth fingers. The remainder of the fascia is removed at a second operation if it becomes involved. This procedure has the advantage of requiring less extensive palmar incisions with consequent lower risk of hematoma, slough, and infection.

The wounds can usually be stutured primarily, but the surgeon must be ready to sacrifice any skin of questionable viability, and to provide coverage of the defect with a whole thickness graft, thick split thickness graft, or pedicle flap, whichever is indicated in the individual case.

Concurrent capsulotomy is often required to release the contractures of the joint capsules. In late cases with extensive joint changes that do not permit mobility of the finger even after capsulotomy, the finger may have to be amputated. In such a case the finger should be filleted, and the soft tissue used as a pedicle flap to cover any unsatisfied defect of the palm.

With adequate excision of the palmar fascia, true recurrences of Dupuytren's Contracture are rare. The disease may involve any of the fascia that is left behind, however, and a second operation may be required. Many of the "recurrences" reported in the literature are actually cases of fibrosis resulting from slough and infection, and are avoidable with careful surgery.

Obviously, the earlier surgery is carried out, the better is the vascularity of the skin, the fewer are the joint changes, the less radical is the excision, the less likely is a slough, and the better is the

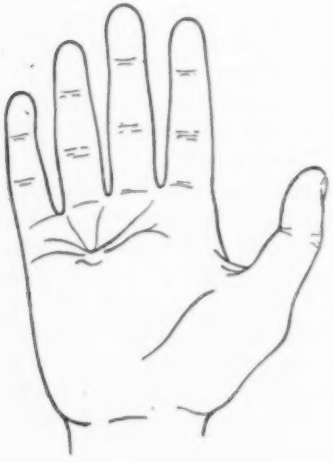


Figure 2
Early Dupuytren's contracture involving ring finger. Note nodule and dimpling of skin over distal palmar crease.



Figure 3
Advanced Dupuytren's contracture involving mainly the ring finger. Note flexion of MP and proximal IP joints, extension of distal IP joint. Beginning contracture of fifth finger.

expected result. Physiotherapy is advisable postoperatively.

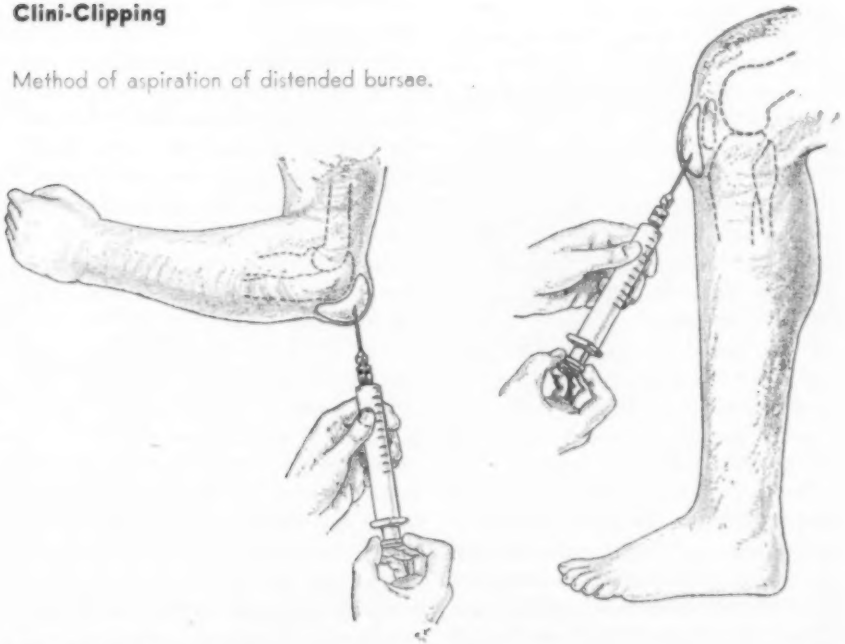
Two drugs have been publicized for the treatment of Dupuytren's Contracture—Vitamin E and cortisone. There is no conclusive evidence that either one is beneficial in this disease when used by itself systemically. The use of cortisone locally at the time of excisional surgery may have some merit, however. Radiotherapy does far more harm than good and is mentioned only to be deprecated. Physiotherapy is of no value without surgery in the treatment of Dupuytren's Contracture or in the prevention of its progression.

Summary

The anatomy, pathology, and etiology of Dupuytren's Contracture are briefly discussed. A plea is made for early diagnosis of this common disabling condition so that the only satisfactory treatment —surgical excision—can be instituted promptly, before irreversible changes in the skin and joints occur and make the surgery much more complicated. The results of surgery in this disease are good in experienced hands.

Clini-Clipping

Method of aspiration of distended bursae.



EDITORIALS

In Memoriam

MALFORD W. THEWLIS

It is difficult to imagine our dynamic Associate Editor as no longer in action on the medical front, for he has at last been met in the Valhalla of medical men, surely by "gods with banners"; on June third he passed away at the age of sixty-six years.



Thewlis

In his many years as Associate Editor of this journal he has been closely in touch with our policies and practices and has always been a loyal and inspiring colleague.

Doctor Thewlis was one of that small band in American medicine of whom it can be justly said that he was a pioneer, for he did creative work in geriatrics. His textbook on the care of the aged, which appeared in 1919, went through many editions. In 1940 he established in Wakefield, Rhode Island, the Thewlis Clinic in connection with his work in preventive and clinical geriatrics. In 1942 he founded the American Geriatrics Society.

As consultant to Government and other hospitals, as a practitioner in Paris and New York, as a medical officer on the fighting front in the First World War, Doctor Thewlis was widely known and highly esteemed, both as private practitioner and public health expert.

Doctor Thewlis was versatile; other than dedication to medicine his interests included graphology, on the subject of which he was a co-author with Isabelle Clark Swezy of a textbook, and magic; early in his career he financed his medical education at Bowdoin by appearing as a professional magician. As to the magic, it always seemed to the writer that the work of Doctor Thewlis in the clinic and sick room and his relations with his fellows partook somewhat of a magical element in his personality.

Psychiatry Assailed

Some of the main reliances of modern psychiatry have been decried as inadequate, or worse, by Dr. Percival Bailey, director of the Illinois State Psychopathic Institute. In a recent lecture before the American Psychiatric Association none of the standard techniques escaped criticism, including psychoanalysis, shock therapy, frontal lobotomy, the tranquilizing drugs, the "hoary errors" of Freud, etc. Dr. Bailey offered no new measures to meet present needs, contenting himself with a prediction, or hope, that the future might hold a solution of the problem of mental illness, perhaps in the field of chemotherapy.

Specifically, Dr. Bailey characterizes shock therapy as "blind empirical treatment"; psychosurgery has left "hecatombs of mutilated frontal lobes behind it"; the tranquilizing drugs "have deleterious effects and cannot be given indefinitely"; psychoanalysis "seems to lead a patient along the very brink of an abyss, hoping that he will not fall in."

So what? We cannot believe that modern medicine faces odds so overwhelming as in Dr. Bailey's picture of the field of battle.

Psychiatric Sequel of War

The Veterans Administration maintains forty neuropsychiatric hospitals and plans to study about fifteen of them over a period of five years in order to determine what types of treatment and hospitals best promote the improvement or recovery of psychiatric patients and the relative costs. This extensive evaluation is expected to place psychiatric care on a much higher level of effectiveness. There will be a follow-up of patients after discharge to determine what happens to them after they leave the hospitals. This should shed light on why so many discharged patients are readmitted to the veterans Administration's hospitals.

Of course some of these patients would have suffered psychiatric impairment if they had never undergone damage incident to military service, but the stress and strains of war must nevertheless have played the principal part in populating the hospitals of the Veterans Administration.

This psychiatric holocaust cannot be minimized or ignored in its assessment as the most calamitous sequel of warfare.

Men talk much of peace when there is no peace: meanwhile even more devastating weapons are feverishly elaborated for expected use.

Chiropractic Psychiatry

It seems that chiropractic has discovered and appropriated psychiatry. It has become an essential element of instruction and practice in its schools. This is revolutionary, for it was once taught that "subluxations" of the spine were the cause of all disease. The subluxation concept has been all but "thrown out of the window." By coping with personality disorders chiropractic is attempting to make a science of itself, borrowing from medicine the psychosomatic doctrine.

We learn from *News and Views*, organ of the St. Louis Academy of General Practice, that the chiropractors implement their psychiatry with the Electropsychometer, a portable little black

box weighing twenty-two pounds; by this magical means, it appears, penetrating the patient's mind and revealing the hidden subconscious causes of disease and by the "psychic surgery" made possible by it eliminating traumas and complexes.

"Hokum!" says *News and Views* — the medical understatement of the year.

Passive Immunity, New Style

Petersen and Campbell of the University of Minnesota have produced antibodies in cows (and cows' milk) against fifty infectious diseases. They injected dead organisms of specific diseases into the udders of the cows.

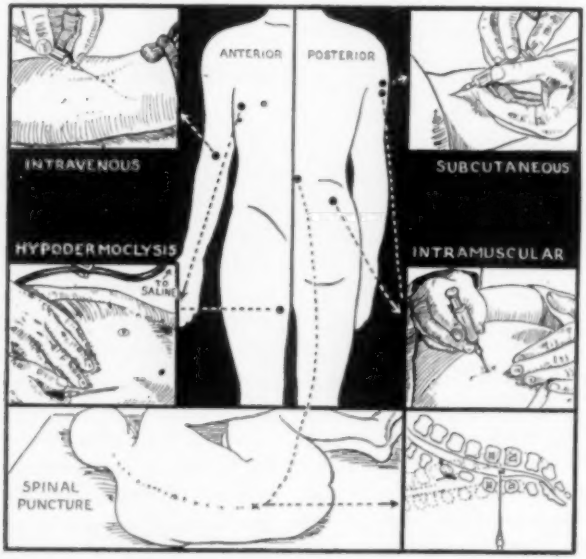
This presumably opens up a new field for the creation of passive immunity in humans against specific infections.

If antibodies against streptococcal infection, for example, can be produced in this way it is easy to fancy what beneficient results might possibly accrue.

It seems that pasteurization and powdering of milk so produced does not deprive it of its protective property.

Another potent clinical weapon may yet be in our hands. No doubt the American Dairy Association is primed to promote its development and application.

Clini-Clipping



Various type of injections and the anatomical areas best suited for them.



How to Question The German Patient

The problem of language barriers is common, especially in areas populated by one or more foreign born groups.

Because the average doctor cannot devote the time required to master many foreign languages, MEDICAL TIMES presents this fourth in a series of brief guides to foreign phrases in the more common languages spoken in the United States.

Keep your "language finder" open in front of the patient and don't worry too much about the pronunciation of words. Your patient will be eager to help.

The completed series of language guides, including French, Spanish, Italian, German, Polish, and Yiddish, will be bound and reprinted as a booklet available at cost.

For examination of German-speaking patients.

Basic rules of pronunciation

In general, German words are pronounced very much like Latin words.

a is pronounced as in *ah; father*
e, as in *eh; step*
i, as in *sit, bib* (sometimes like ee in *feet; see)*
o, as in *oh; low; mow*
u, as in *ooh; snooze*
ei (i), as in *eye*
eu (oy), as in *boy*
au (ow), as in *cow; town*
ie (ee), as in *feet; see*

In the following vowel combinations, the *e* after the vowel is to be pronounced very fast and slurringly except in æ.

æ, as in *bed*
ue, as in *suit* (very fast, emphasis on u)
œ, as in *turn; first*
aeu, as in *boy*

The consonants are pronounced as follows:
ch, a throaty sound as *k* in *kick*
r, gutteral roll (not trilled)
h, hard and gutteral
v, sounds as *f*
w, sounds as *v*

Anatomical terms

head—der kopf	chest—die brust
eye(s)—das(die) auge(n)	lungs—die lunge
ear(s)—das(die) ohr(en)	shoulders—die schultern
nose—die nase	tongue—die zunge
mouth—der mund	throat—der hals
teeth—die zaehne	finger—der finger
neck—das genick	leg(s)—das(die) bein(e)
heart—das herz	feet—die fuesse
stomach—der magen	hands—die haende
bladder—die blase	rectum—der mastdarm
back—der ruecken	buttock—das gesaess
arm(s)—der(die) arm(e)	womb—die gebaermutter

Courtesy phrases

NOTE: Normal courtesy requires the use of the name after the title Herr (Mr.) Frau (Mrs.) and Fraeulein (Miss), if it is known. If the name is not known, the title is best left out.

Good morning	Guten Morgen
Good afternoon	Guten Tag
Good night	Gute Nacht
Please	Bitte
Please sit down	Bitte setzen Sie sich
How are you?	Wie geht as Ihnen
Very well, thanks	Danke, sehr wohl
Do you understand	Verstehen Sie
I understand (do not)	Ich verstehe (nicht)
Excuse me	Entschuldigen Sie
Pardon me	Verzeihen Sie
Very good	Sehr gut
Today	Heute
Tomorrow	Morgen
Yesterday	Gestern

Diseases—Krankheiten

measles	masern
scarlet fever	scharlach
chicken pox	windpocken
small pox	echte pocken
pneumonia	lungenentzuendung
typhoid fever	typhus
enteritis	darmkatarrh
U. R. I.	erkaeltung

General questions

do you feel sick	fuehlen sie sich krank
do you have pain	haben sie schmerzen
—much pain	—heftige schmerzen
—mild pain	—milde schmerzen
where	wo
here	hier
when	wann
how many years	wie viele jahre
how many days	wie viele tage
how many hours	wie viele stunden
how many times	wie oft
where were you born	wo sind sie geboren
how old are you	wie alt sind sie

Directions to patients

do as I do	machen sie mir nach
relax	entspannen sie
relax more	entspennen sie mehr
open your mouth	oeffnen sie den mund
open your eyes	oeffnen sie die augen
breathe deeply	atmen sie tief
breathe through your mouth	atmen sie durch den mund
hold your breath	halten sie den atem an
push	druecken sie
cough	husten sie
please don't move	bitte, halten sie still

Cardio-respiratory

do you tire easily	ermueden sie leicht
are you short of breath	sind sie kurzatmig
does your heart beat fast	haben sie herzklopfen
do your feet swell	haben sie geschwollene fuesse
do you have pain in the chest	haben sie schmerzen in der brust
—sharp pain	—scharfe schmerzen
—dull pain	—dumpfe schmerzen
—when you breathe	—beim atmen
do you cough	husten sie
do you spit	spucken sie
sputum	haben sie auswurf
bloody sputum	blutigen auswurf
have you lost weight	haben sie abgenommen
does someone in your family have a cough	hustet jemand in ihrer familie

does it burn	brennt es
chills	haben sie schuettelfrost
fever	haben sie fieber

Obstretics and gynecology

at what age did you begin to menstruate	wie alt waren sie als sie die erste menstruation hatten
how many days do you flow	wie viele tage bluten sie
1 to 10	eins, zwei, drei, vier, fuenf, sechs, sieben, acht, neun, zehn
do you have a discharge	haben sie einen ausfluss
when was your last menstrual period	wann hatten sie ihre letzte menstruation
do you have pain with your menstruation	haben sie schmerzen bei der menstruation
are you pregnant	sind sie schwanger
how many times have you been pregnant	wie oft waren sie schwanger
how many children have you had	wie viel kinder hatten sie
how much did the largest weigh at birth	wie viel hat das schwertse bei der geburt gewogen
what was the duration of labor	wie lange hatten sie wehen
did you have trouble with the child's delivery	war es eine schwere geburt

Pediatrics

how are the child's stools	was fuer stuehle hat das kind
—constipated	—verstopft
—diarrhea	—durchfall
—how many a day	—wie viele im tag
does the child eat well	isst das kind gut
any vomiting	bricht es
does the face turn blue	wird es blau im gesicht
does the child seem tired	erscheint das kind muede
does it hurt	tut es weh
it won't hurt	es wird nicht weh tun
it will be finished in a minute	es wird gleich vorueber sein
do you want a piece of candy	willst du ein zuckerl
did you take the temperature	haben sie das kind gemessen
what was the temperature	wie hoch war die temperature
what a big, handsome boy	so ein schoener, grosser bub
what a beautiful little girl	so ein schoenes maederl
baby	kleines kind or baby
good	gut

NOTE: When talking to an adult use the word *sie* for *you;* when talking to a child use the word *du* for *you.*

Systemic inquiry

Head	
trauma	verletzung
unconscious	bewustlos
did you faint	waren sie ohnmaechtig
are you dizzy	sind sie schwindlig
headache	kopfschmerzen
Eyes	
sight	sehkraft
clear vision	klares sehen
near	kurzsichtig
far	weitsichtig
Ears	
he is deaf	er ist taub
noise in the ears	geraeusche in den ohren
Nose	
coryza (head cold)	schnupfen
did you have nosebleed	hatten sie nasenbluten
Throat	
do you have frequent sore-throat	haben sie oft halsschmerzen

Gastro-intestinal

do you have a good appetite	haben sie guten appetit
do you have a poor appetite	haben sie schlechten appetit
are you nauseated	haben sie brechreiz
were you nauseated	hatten sie brechreiz
do you vomit	brechen sie
do you have diarrhea	haben sie durchfall
are you constipated	sind sie verstopft
did you have a B.M. today	hatten sie heute stuhl
feces	stuhl
black	schwartz
white	weiss
yellow	gelb
brown	braun
bloody	blutig
do you have cramps	haben sie kraempfe
after meals	nach dem essen
before meals	vor dem essen
did you take a laxative	haben sie ein abfuehrmittel genommen
did you take castor oil	haben sie rizinusoel genommen

Genito-urinary

urine	urin
do you get up at night to urinate	muessen sie waehrend der nacht wasser lassen (urinieren)

Charity Hospital of Louisiana

Fourth of a series on hospital centers

Charity Hospital of Louisiana in New Orleans is one of the oldest and largest hospitals in the South. It is also the nucleus of one of the best known and regarded medical centers in the United States. Established during the days of French and Spanish colonization of Louisiana more than 200 years ago; twice demolished, once by fire, once by hurricane, Charity Hospital today is reputed to be the largest hospital under one roof in the world.



True to the romantic traditions of the colorful city of New Orleans, Charity Hospital had its beginnings in a gift by a sailor, Jean Louis, by name. In 1736, Sailor Jean Louis left funds to establish what his will termed "L'hopital des pauvres de la Charité." Named St. Johns Hospital, the first structure served New Orleans indigent sick for more than 40 years. Leveled by a hurricane, the hospital was rebuilt and endured until it was again destroyed, this time by a fire in 1808. The hospital, however, continued to function in temporary quarters in various parts of the city.

In 1811, it was incorporated as an institution of the Territory of Orleans in Louisiana and permanent quarters were constructed. Since that time Charity Hospital has been almost entirely a tax-supported institution. The buildings which served the institution during the latter part of the 19th century and for 40 years of this century have been replaced by modern, up-to-date structures.

Present Buildings Charity Hospital ranks among the first five largest general hospitals in the United States. The main building is a 19-story structure, built of reinforced concrete on steel, with a limestone exterior. The general architectural layout is in the form of the letter "H". An additional wing projects from the center of the cross-bar towards the rear of the building. Daylight and air is available to all wards and



other facilities since all floor space is provided with outside exposure.

The new hospital was completed in 1939 and placed in operation in 1940. Outlying buildings house the contagious, poliomyelitis and tuberculosis units, the laundry, power house, garages, carpenter, machine shop and other maintenance departments, and nurses dormitories. All are connected to the main building by covered passageways.

The main building has a capacity of 2500 beds. The total capacity of the entire hospital including all patient facilities and outlying buildings is 3500 beds.

Scope The hospital is operated solely for the indigent sick of Louisiana, unable to receive proper medical care elsewhere, and for the care of emergency cases arising during critical periods. Also, Charity Hospital accommodates only the acutely ill. Chronically ill and convalescent patients are referred to other institutions.

Charity is owned and operated by Louisiana as a part of its extensive hospital system which comprises more than a dozen units located throughout the state. It is supported almost entirely by appropriations of the state legislature, supplemented to an extent by endowed funds of altruistic citizens.

Although patients are received from all parts of the state, some 56% are from New Orleans. An average of 70,755 bed patients are admitted yearly with acute diseases. In addition, approximately 500,000 patient visits are made in the out-patient clinics and 250,000 pass through the admitting room each year.

Administration A board of administrators, composed of 12 members appointed by the governor of the state,



From a sailor's bequest in 1736, the present structure has evolved. Constructed at a cost of nearly $13 million, Charity is considered the largest hospital under one roof in the world. Outlying buildings are connected to the main building by covered passageways. Total capacity: 3,500 beds.

formulates policy. The governor acts as the exofficio president. The members of the board are civic-minded citizens, professional or business men and women who devote their time voluntarily without remuneration.

Assisting the medical director, a full-time physician, are three assistant directors. Two are in charge of business administration, disbursement, maintenance and other non-medical functions. The third is a physician concerned primarily with administration of matters of a medical nature pertaining directly to patient care.

The director of the hospital is Dr. Edmund L. Leckert. Dr. Leckert served as the director of the Board of Health of the City of New Orleans and for more than 30 years has been a member and currently president of the State Board





Surgical residencies at Charity benefit from the modern facilities and expertly-trained nursing personnel. Quality training and supervision is provided by the hospital's attending staff of 600 physicians, the majority of whom are faculty members of nearby medical schools.



of Medical Examiners of Louisiana. He has been a member of the visiting staff of the hospital since completing his internship at Charity. For many years, Dr. Leckert was associated with the surgical department of Tulane University on the staff of the eminent pioneer in surgery, Dr. Rudolph Matas.



Assisting Dr. Leckert in a medical capacity is Dr. Adolph Flores. Dr. Flores returned from general practice to complete a residency in internal medicine and is presently serving as administrator after having spent two years in the Navy.

Dr. Flores has direct contact and supervision of residents and interns concerning administrative matters.

Hospital Departments Each of Charity's departments is headed by a specialist in his particular field, a full time employee of the hospital who is directly responsible to the administrator. The department heads supervise approximately 2400 employees in various categories plus 600 graduate nurses, 350 student nurses and several hundred students in schools of medical technology conducted by the hospital. All personnel, with the exception of residents, interns and those engaged in instruction, are covered by the Louisiana Civil Service System.

Resident and Intern Staffs The intern staff is composed of 130 physicians representing most of the schools in the United States. The majority are from the South, but all areas of the country are represented. The term of internship is one year, interns rotating through the major services.

The resident staff consists of 350 physicians receiving training in 17 Council-approved specialties of medicine and surgery. Due to present legal requirements of the State of Louisiana, graduates of foreign medical schools cannot be appointed as residents. Internships are open to foreign graduates, however.

Visiting Staff The training of the intern and resident physician is directly under the surveillance of the visiting staff, a voluntary group of approximately 600 physicians and surgeons serving without pay. Composed of leading physicians, many of the staff are among the most prominent teachers in the medical profession in the South.

Two-thirds of the staff is drawn from part or full-time faculty members of the medical schools in New Orleans. In addition, some 75 fellows from the medical school work without pay to assist the residents in some of their duties in the hospital.

The function of the visiting staff is largely supervisory and for instruction. Although the responsibility for the welfare of the patient rests upon the directors of the services which render specialized types of care, the patients are, with few exceptions, treated by residents, assistant residents, and interns.

Location Charity Hospital is located in downtown New Orleans adjacent to the heart of the business district and within walking distance of the Vieux Carré (the French Quarter). From its upper stories, Lake Pontchartrain (20 miles wide and 60 miles long) is visible to the north and the Mississippi River to the south. Often referred to as America's "city of contrasts" and "America's most interesting city," New Orleans has an urban population of more than 650,000, 30% of whom are negroes. Adjacent to New Orleans is Jefferson Parish which has a population of approximately 200,000. Some 60% of the patients treated in the hospital are negroes.

Associated Institutions The hospital is flanked on one side by the School of Medicine of Tulane University of Louisiana and on the other by the School of Medicine of Louisiana State University. Both schools are connected directly with the hospital by tunnels and passageways.

Each school has recently expended its facilities including the construction of buildings affording ample classroom,



Nurses give patient an assist at Charity's well-known tuberculosis hospital.







Among the up-to-date facilities at Charity Medical Center are the heart station, post-op service, laboratories, and blood bank with refrigerated tanks.



laboratory, clinic and research facilities. At the rear of the hospital is the new ultramodern Veterans Administration hospital. This is a "deans committee" hospital of 500 beds. The consultant and visiting staffs of the hospital have been selected from the staffs of both medical schools and Charity Hospital.

Organization The medical and surgical services are divided into three units: Louisiana State University, Tulane University, and an independent unit. The latter has no school affiliation. New patients are admitted to the various services of three units in the ratio of 40% for each school unit and 20% for the independent unit. Each unit has its own medical, surgical, obstetric, gynecologic, orthopedic, ophthalmologic, otolaryngologic, urological, psychiatric, and pediatric subdivisions. These subdivisions are headed by chiefs of staff. Those on the school services are professors in the respective departments and the heads of departments in the medical school.

Certain "hospital departments" render service to all three units. Among these are the laboratories of the Department of Pathology, the Department of Radiology, the Department of Anesthesiology and the blood bank. In addition the hospital operates a heart station which performs and interprets all electrocardiograms, the lung station which performs respiratory function tests, a mental unit, a premature unit (one of the largest in the country—average daily census: 140), and a physiotherapy department. Each of these hospital departments is staffed by a full-time physician director who is a diplomate of the board in the specialty concerned, and various full time assistants who likewise have diplomate status.

Department heads are associated as teachers with either or both of the medical schools. The facilities of these departments are available for the training and instruction of interns and residents. For example, surgical residents rotate through the pathology or anesthesiology service; the medical residents may rotate through the heart or lung station if they elect to do so.

Technical Schools Charity Hospital, in addition to its schools of nursing, maintains schools for technical personnel. Among these are schools for laboratory technologists, physical therapists, radiology technologists, anesthesia (for nurses), and in addition, a school of dietetics.

Work Load Charity Hospital is extremely active inasmuch as all acute illnesses, emergencies and accidents in and about New Orleans are brought to its admitting and accident rooms. More than 110,000 patients are treated annually in the accident room alone.

In the total of 54 operating and delivery rooms throughout the hospital some 12,000 babies are delivered each year, and more than 24,000 surgical procedures are performed.

Libraries The hospital maintains a library for both physicians and patients. Interns and residents have access to the libraries of both medical schools and that of the Orleans Parish Medical Society. All libraries are located in the medical schools or the hospital.

Infirmary An infirmary on the sixth floor provides free medical and surgical care for house staff members and their families. Members of the house staff are also extended the privilege of use of the obstetrical facilities and are furnished medication for his or her personal use.

Religious Affiliations Charity Hospital is a non-sectarian institution. However, Sisters of the Order of St. Vincent de Paul are affiliated with the hospital. There are approximately 36 Sisters assigned to Charity Hospital all of whom are graduate nurses and many of whom hold postgraduate degrees. Sisters instituted the nursing service at the hospital. They have given of their services to the hospital since 1834 and have nursed patients in the hospital long before Florence Nightingale established the nursing profession. At the present time the nursing department, the school of nursing, the housekeeping department, the dietary department and the outpatient department are each supervised by a Sister who is a graduate nurse. "These unselfish women," in the words of the hospital's director, "lend a spiritual and moral stability to the institution which sets Charity Hospital apart from other institutions less fortunate in not having such assistance."

There are individual chapels for patients and personnel of the Protestant and Catholic faith. There are numerous churches in the vicinity of the hospital and clergymen of many denominations administer to patients of the hospital.

Recreation Southern Louisiana with its numerous canals, lakes and bayous is a true fisherman's paradise. Crabbing, shrimping and deep sea fishing are year round sports. Duck, deer and hunting of other game is permitted in the winter months of the year. The mild climate makes possible year-round golfing, tennis, and other outdoor sports and there are abundant facilities for sailing, speed boat racing, water skiing, and swimming in the New Orleans area.

The editors wish to thank Dr. Leckert and his staff at Charity for their help in preparing the text and photographs for this article.
We are especially indebted to Dr. John Adriani, Director, Department of Anesthesiology, Charity Hospital, for his cooperation.



A "ringer" sits in, steals the show at a hospital dramatic club rehearsal.

The New and Enlarged

INVESTMENT DEPARTMENT

C. Norman Stabler, Financial Editor

THIS MONTH:

Tax Exemption Feature of Certain Income Bonds

Northern Pacific Railway

Missouri Pacific

Federal Reserve Board Credit Policy:
Tight, But Not Too Tight

Investing For The Successful Physician

Prepared especially for Medical Times by C. Norman Stabler, market analyst of "The New York Herald Tribune."

TAX EXEMPTION FEATURE OF CERTAIN INCOME BONDS

There was a day when one could get six per cent and safety on one's savings. Those were the days too, when income tax rates were low and the prudent man had the assurance that if he saved his money and put it in a savings bank at four per cent, in a mortgage on nearby property at five per cent, or in a first mortgage gold bond of a major corporation at six per cent, the proceeds would be his "take home" pay for having spent less than he earned. The cut that went to Uncle Sam was infinitesimal.

We can look back now and say it didn't take much brains to do that. All it required was fortitude, and the ability to say "No" to the little woman or junior, who were pestering you for a new Stanley steamer. The investing part was simple.

Only Wall Street gamblers, who were looking for 20, 30 or 50 per cent on a fast turnover, deserved our pity, for we had read in books what happened to those audacious spendthrifts when their ducks and drakes came home to roost.

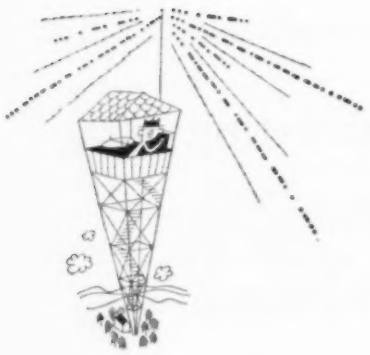
Speculators and investors of those days had one thing in common with their modern counterparts. It is the thing that is different that is a basis of this discussion.

Then, as now, and forever in the future, he that would preserve his capital and earn a decent return must consider the security offered by the recipient of his savings. That is the similarity.

The difference is taxes. Thirty and forty years ago this was of minor importance. Now the tax impact on one's earnings, whether in the form of salary, fees, dividends or interest, is almost as important as the income itself.

That explains the popularity of municipal bonds. They are tax exempt. The subject was thoroughly discussed in the

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April issue of "MEDICAL TIMES," accompanying which article was a statistical table demonstrating how much individuals in various tax brackets would have to earn on taxable securities in order to equal what they would be able to take home had they contented themselves with municipal tax-exempt bonds paying such low amounts as 2½, 2¾, 3 or 3¼ per cent.

Just as a refresher, an individual with no dependents, in the $44,000 to $50,000 bracket, would have to make 10.71 per cent in taxable income to come out even with a 3 per cent non-taxable income. Were he in the $90,000 to $100,000 bracket, he would have to make more than 23 per cent in taxable income to fare as well as he would with a 3 per cent tax-exempt bond.

Simplifying the same facet of this discussion, it is obvious that when an investor's income is in the 50 per cent federal income tax bracket, a yield of 2½ per cent from municipal bonds is equal to one of 5 per cent from taxable investments.

There are gimmicks in the tax laws however. Suppose you could make 6 to 7 per cent tax-free income on a bond. There are circumstances under which this can be done. It is legal and approved, and based on a ruling of the Internal Revenue Service of the Treasury Department.

It has to do with so-called income bonds, virtually all of which were issued some years ago when the Interstate Commerce Commission brought about reorganizations of a number of our major railroad systems. There is an active market in some fifty of these issues.

Most of these bonds carry interest rates of 4 to 5 per cent, but as many

sell at substantial discounts, the yield to the purchaser runs up rapidly. Under certain conditions payments of interest on these obligations is *not* regarded as income by the Bureau of Internal Revenue, but as a return of capital. Thus it is tax-exempt.

Moreover, after having received an annual interest payment, the investor can sell his bond and buy it back again and thus be in line for another "return of capital" when the subsequent interest payment is made. This can be continued for as many years as the bonds remain outstanding, provided there is no change in this feature of the tax laws. Your heirs, who may inherit the obligations, can keep it up too, long after you have gone to where there are no taxes, no railroads and no income.

To gain a clear comprehension of how this works, it would be well to consider a few of the features of income bonds. They are distinct from other bonds in that their interest is payable only if it is earned. Consequently the investor must realize that he is not buying a top quality municipal bond or a first mortgage security. The risk is greater, far greater, even though several of these issues cover their requirements several times.

The purpose of this article is to discuss their unique tax advantage. There is no intention to recommend any specific issues or to assume responsibility as to the permanence of future interest payments. The fact remains that in the last few years, after the reorganizations, the record has been a good one in most cases.

From the standpoint of the issuing corporation, usually a railroad, the advantage is that the interest payment is a contingent rather than a fixed charge.


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The total of the interest payments is a deductible expense. Thus a large corporation can reduce its tax burden by 52 per cent from what it would pay had the same amount been carried down into net income, to be disbursed as dividends on either its preferred or its common stocks.

In most cases income bonds pay their interest only once a year. They are similar to a preferred stock in that the payment is not due unless earned, but they differ from a preferred stock in that in virtually all cases the interest must be paid if earned. Directors of a corporation could delay paying a preferred dividend, even if the annual figures showed the money in the till. But they are required to pay the interest on their income bonds if the corporation earned the necessary amount.

There is less uniformity in the matter of cumulative payments. In most cases a payment that is due, but is not earned, (and therefore is not paid) accumulates for a specific number of years, usually three years. There are a few bonds where this does not apply, and there are others that are completely cumulative, irrespective of the number of years in which earnings failed to meet interest requirements.

An advantage to the corporation is that failure to make a payment cannot be the cause for throwing it into another reorganization or bankruptcy proceeding. The advantage to the investor is that, when, as and if the interest is earned and paid, the government says in effect that he has merely been paid back a part of his original cost and not earned an income.

The ruling of the Bureau reads as follows: "If a taxpayer purchases bonds 'flat' when . . . the interest has accrued but has not yet been paid, the entire amount represents a capital investment. Any interest which . . . has accrued at the time of purchase is not income and is not taxable if subsequently paid. These payments are returns of capital which reduce the remaining cost basis. However, interest which accrues after the date of purchase is taxable income for the year in which received."

It is probably realized that in most cases bonds are dealt in on an "and interest" basis. If an investor buys a 4 per cent bond a month after it has paid its previous quarterly coupon of 1 per cent, he pays not only the purchase price but the accumulated interest, in this case $10. When he sells he is entitled to whatever interest has accumulated while he held it.

On the other hand there are certain bonds that are dealt in "flat", as is a common or preferred stock. In such cases the price at which it is bought and sold covers not only the basic cost of the security but any interest that may or may not have accumulated. In the case of a stock there may be every assurance it will pay its next quarterly dividend of $1 on the due date, yet the buyer and the seller make no adjustment for accumulated dividends. They trade with each other on a flat basis. Income bonds are dealt in flat.

There are other advantages to income bonds which distinguish them from preferred stocks. They usually have sinking fund requirements which facilitate their ultimate redemption. Most preferred stocks are callable at a specified price, but there is no requirement that the corporation must take them back on any specified basis. Moreover they are regarded as a debt, and therefore rank

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ahead of preferreds in the event of financial difficulties.

An illustration will help explain the income tax gimmick. Let us assume you purchased a $1,000, face amount, 5 per cent income bond late in 1955 or early this year. The time is not important except to the extent we are assuming you owned it prior to its annual interest-payment date in 1956. For some unexplained reason, most outstanding income bonds pay their interest either on April 1 or May 1. There are a few exceptions.

To be more specific we'll assume this bond was a Lehigh Valley general consolidated F 5 per cent bond, maturing in 2003, for which you paid 81, or $810. On May 1 you received $50 in interest, a return of nearly 6.2 per cent. But it was not income, according to the taxing authorities; it was a return of your capital, hence tax free. In this particular case the interest the Lehigh Valley paid you was covered in 1955 two and a half times, so the risk was not too great.

There are certain income bonds outstanding that are covered many times more. For instance Sante Fe covered all its adjustment 4s of 1995 17.3 times and Minneapolis, St. Paul & Sioux St. Marie covered all charges, including its first cumulative income 4½s of 1971, 9.6 times.

Then there were others that didn't do as well. Lackawanna just barely covered all charges but its 5s of 1993 were recently available at 73, indicating a return of almost 7 per cent.

After you have collected your interest, and before the 1957 payable date, you sell the bond and buy it back again. Probably you will get a slightly lower price, as at that time the bond will be selling ex-interest, and flat, of course. You are now in line for the next interest payment and it too will be a return of capital.

If you neglect to sell and rebuy, and should hold this bond over the one-year period, then it is a different matter. The tax men will then regard your $50 per bond as an interest payment, and you will have to pay according to your individual income bracket.

Figures used in this discussion were obtained from the investment security firm of A. W. Benkert & Co., 70 Pine Street, New York City. It issues regularly a list of about fifty railroad income bonds, on all of which the above tax advantage is present. Their table shows the approximate price of each issue, how many times the issuing corporation covered all charges, the date interest payments are due, the ex date in cases where the bonds are not coupon bonds, and the extent to which each issue is cumulative.

* The table follows. It was compiled as of mid-April. Obviously market prices are subject to frequent changes. Latest prices can be obtained from your regular newspaper. The principle is the same, and percentage yields, on any day can be determined by the usual simple method of dividing the price into the amount of interest, with two ciphers added.

As mentioned earlier, the security behind an income bond is far from being as sound as that behind municipal bonds. The latter get top rating, along with securities of the United States government, because their interest and their ultimate redemption is based on the power to tax. A corporation, or an individual, owes his taxes even before interest on a first mortgage bond, and in

Railroad Income Bonds

	Approx. Current Price (a)	Times All Charges Earned 1955 (b)	Date of Payment	1956 Ex Date	Extent Cumulative
Atch. T. & S. F. adj. 4s/95	113*	17.3	5/1 & 11/1	Cou.	Fully
Balt. & Ohio cv. 4½/2010	90	2.3	5/1 or before	Cou.	Fully
Boston & Me. "A" 4½/70	61	2.1	5/1	Cou.	Fully @ 4%
Cent. of Ga. "A" 4½/2020	91	2.8	5/1	4/17	13½%
Cent. of Ga. "B" 4½/2020	80	2.8	5/1	4/17	13½%
Chic. & E. I. cv. 5s/97**	94	3.0	4/1	Cou.	Non-Cum.
Chic. & E. I. deb. 5s/2054	69	1.8	5/1 & 11/1	Cou.	Non-Cum.
Chic. Gt. W. gen. 4½/2038	81	6.6	4/1	3/12	13½%
Chic. I. & L. 1st "A" 4s/83	72	6.4	4/1	Cou.	Fully
Chic. I. & L. 2nd "A" 4½/2003	74	3.9	4/1	Cou.	13½%
Chic. M. St. P. & P. "A" 4½/2019	84*	3.3	4/1	Cou.	13½%
Chic. M. St. P. & P. gen "B" 4½/2044	68*	2.6	4/1	Cou.	13½%
Chic. M. St. P. & P. deb. 5s/2055	64	2.0	3/15 & 9/15	Cou.	Non-Cum.
Chic. & N. W. 2nd cv. 4½/99	59	1.4	4/1	3/6	13½%
Chic. R. I. & P. inc. deb. 4½/95	101*	5.6	3/1 & 9/1	Cou.	18%
Del. N. Y. Lack. & West. 5s/93	76	1.0	5/1	Cou.	15%
Del. Lack. of N. J. 1st "B" 4s/93	59	0.9	5/1	Cou.	12%
Denver & R. G. West. gen. "A" 4½/2018	101*	6.7	4/1	Cou.	18%
Erie R. R. gen. cv. "A" 4½/2015	75*	2.5	4/1	Cou.	13½%
Erie R. R. deb. 5s/2020	76	1.9	4/1 & 10/1	Cou.	15%
Gulf, Mo. & O. gen. "A" 5s/2015	100*	3.7	4/1	Cou.	15%
Gulf, Mo. & O. gen. "B" 4s/2044	87*	3.7	4/1	Cou.	12%
Lehigh Valley gen. cons. "D" 4s/2003	69	2.5	5/1	Cou.	20%
Lehigh Valley gen. cons. "E" 4½/2003	73	2.5	5/1	Cou.	22½%
Lehigh Valley gen. cons. "F" 5s/2003	81	2.5	5/1	Cou.	25%
Midland Valley adj. inc. "A" 4s/63	83	5.5	4/1 & 10/1	Cou.	Non-Cum.
Midland Valley adj. inc. "B" 4s/63	79	5.1	4/1 & 10/1	Cou.	Non-Cum.
Minn. St. P. & SSM. 1st cum. inc. 4½/71	88*	9.6	5/1	Cou.	Fully
Minn. St. P. & SSM. gen. inc. "A" 4/91	64	5.0	5/1	4/17	Non-Cum.
Missouri-Kansas-Texas adj. "A" 5/67	76	1.8	4/1 & 10/1	Cou.	Fully
Missouri Pacific "A" 4¾s/2020	69	2.4(c)	4/1	3/21	13½%
Missouri Pacific "B" 4¾s/2030	64	2.1(c)	4/1	3/21	13½%
Missouri Pacific deb. 5s/2045	62	1.8(c)	4/1	3/21	Non-Cum.
NY., NH., & Hart. cv. "A" 4½s/2022	54	1.5	5/1	4/11	13½%
NY., Sus. & West. gen. "A" 4½/2019	43	0.9	5/1	4/12	13½%
Peoria & Eastern inc. 4/90	70	2.6	4/1	Cou.	Non-Cum.
St. L.-San F. 2nd "A" 4½/2022	91	4.2	5/1	4/10	18%
Spokane Int. inc. "A" 4½/2013	95	7.8	4/1	3/14	13½%
Wabash RR. "A" 4/81	85*	7.0	4/1	Cou.	12%
Wabash RR. "B" 4¼/91	86*	6.0	4/1	Cou.	12¾%
West. Pacific inc. deb. 5/84	104*	4.4	5/1	Cou.	20%
Wisconsin Cent. gen. "A" 4½/2029	76	2.0	5/1	Cou.	13½%

* Trade "and interest" on the N.Y.S.E. All others trade "Flat."
(a) Ex interest reflecting payments through May 1956.
(b) Before Federal Income taxes but after tax credits. (c) Pro forma.
** Convertible into 41.08 common shares per $1,000 par.

Tax-Exempt Yields and Equivalent Taxable Yields

*This table quickly shows the equivalent taxable yield onsecurities before Federal Income Taxes as compared with Tax Exempt Yields.**

TAX-EXEMPT YIELD	FEDERAL INCOME TAX BRACKETS						FEDERAL INCOME TAX BRACKETS					
	30%	40%	47%	50%	52%	55%	60%	65%	70%	75%	80%	90%
	Equivalent Taxable Yields—approximated						*Equivalent Taxable Yields—approximated*					
.50%	.71%	.83%	.94%	1.00%	1.04%	1.11%	1.25%	1.42%	1.66%	2.00%	2.50%	5.00%
.55	.78	.91	1.04	1.10	1.14	1.22	1.37	1.57	1.83	2.20	2.75	5.50
.60	.85	1.00	1.13	1.20	1.25	1.33	1.50	1.71	2.00	2.40	3.00	6.00
.65	.92	1.08	1.23	1.30	1.35	1.44	1.62	1.85	2.16	2.60	3.25	6.50
.70	1.00	1.16	1.32	1.40	1.46	1.55	1.75	2.00	2.33	2.80	3.50	7.00
.75	1.07	1.25	1.41	1.50	1.56	1.66	1.87	2.14	2.50	3.00	3.75	7.50
.80	1.14	1.33	1.51	1.60	1.66	1.77	2.00	2.28	2.66	3.20	4.00	8.00
.85	1.21	1.41	1.60	1.70	1.77	1.88	2.12	2.42	2.83	3.40	4.25	8.50
.90	1.28	1.50	1.70	1.80	1.87	2.00	2.25	2.57	3.00	3.60	4.50	9.00
.95	1.35	1.58	1.79	1.90	1.98	2.11	2.37	2.71	3.16	3.80	4.75	9.50
1.00	1.42	1.66	1.89	2.00	2.08	2.22	2.50	2.85	3.33	4.00	5.00	10.00
1.05	1.50	1.75	1.98	2.10	2.18	2.33	2.62	3.00	3.50	4.20	5.25	10.50
1.10	1.57	1.83	2.07	2.20	2.29	2.44	2.75	3.14	3.66	4.40	5.50	11.00
1.15	1.64	1.91	2.17	2.30	2.39	2.55	2.87	3.28	3.83	4.60	5.75	11.50
1.20	1.71	2.00	2.26	2.40	2.50	2.66	3.00	3.42	4.00	4.80	6.00	12.00
1.25	1.78	2.08	2.36	2.50	2.60	2.77	3.12	3.57	4.16	5.00	6.25	12.50
1.30	1.85	2.16	2.45	2.60	2.71	2.88	3.25	3.71	4.33	5.20	6.50	13.00
1.35	1.92	2.25	2.55	2.70	2.81	3.00	3.37	3.85	4.50	5.40	6.75	13.50
1.40	2.00	2.33	2.64	2.80	2.91	3.11	3.50	4.00	4.66	5.60	7.00	14.00
1.45	2.07	2.41	2.73	2.90	3.02	3.22	3.62	4.14	4.83	5.80	7.25	14.50
1.50	2.14	2.50	2.83	3.00	3.12	3.33	3.75	4.28	5.00	6.00	7.50	15.00
1.55	2.21	2.58	2.92	3.10	3.23	3.44	3.87	4.42	5.16	6.20	7.75	15.50
1.60	2.28	2.66	3.02	3.20	3.33	3.55	4.00	4.57	5.33	6.40	8.00	16.00
1.65	2.35	2.75	3.11	3.30	3.43	3.66	4.12	4.71	5.50	6.60	8.25	16.50
1.70	2.42	2.83	3.21	3.40	3.54	3.77	4.25	4.85	5.66	6.80	8.50	17.00
1.75	2.50	2.91	3.30	3.50	3.64	3.88	4.37	5.00	5.83	7.00	8.75	17.50
1.80	2.57	3.00	3.40	3.60	3.75	4.00	4.50	5.14	6.00	7.20	9.00	18.00
1.85	2.64	3.08	3.49	3.70	3.85	4.11	4.62	5.28	6.16	7.40	9.25	18.50
1.90	2.71	3.16	3.58	3.80	3.96	4.22	4.75	5.42	6.33	7.60	9.50	19.00
1.95	2.78	3.25	3.68	3.90	4.06	4.33	4.87	5.57	6.50	7.80	9.75	19.50
2.00	2.85	3.33	3.77	4.00	4.16	4.44	5.00	5.71	6.66	8.00	10.00	20.00
2.05	2.92	3.41	3.87	4.10	4.27	4.55	5.12	5.85	6.83	8.20	10.25	20.50
2.10	3.00	3.50	3.96	4.20	4.37	4.66	5.25	6.00	7.00	8.40	10.50	21.00
2.15	3.07	3.58	4.06	4.30	4.48	4.77	5.37	6.14	7.16	8.60	10.75	21.50
2.20	3.14	3.66	4.15	4.40	4.58	4.88	5.50	6.28	7.33	8.80	11.00	22.00
2.25	3.21	3.75	4.24	4.50	4.68	5.00	5.62	6.42	7.50	9.00	11.25	22.50
2.30	3.28	3.83	4.34	4.60	4.79	5.11	5.75	6.57	7.66	9.20	11.50	23.00
2.35	3.35	3.91	4.43	4.70	4.89	5.22	5.87	6.71	7.83	9.40	11.75	23.50
2.40	3.42	4.00	4.53	4.80	5.00	5.33	6.00	6.85	8.00	9.60	12.00	24.00
2.45	3.50	4.08	4.62	4.90	5.10	5.44	6.12	7.00	8.16	9.80	12.25	24.50
2.50	3.57	4.16	4.72	5.00	5.21	5.55	6.25	7.14	8.33	10.00	12.50	25.00
2.55	3.64	4.25	4.81	5.10	5.31	5.66	6.37	7.28	8.50	10.20	12.75	25.50
2.60	3.71	4.33	4.90	5.20	5.41	5.77	6.50	7.42	8.66	10.40	13.00	26.00
2.65	3.78	4.41	5.00	5.30	5.52	5.88	6.62	7.57	8.83	10.60	13.25	26.50
2.70	3.85	4.50	5.09	5.40	5.62	6.00	6.75	7.71	9.00	10.80	13.50	27.00
2.75	3.92	4.58	5.19	5.50	5.73	6.11	6.87	7.85	9.16	11.00	13.75	27.50
2.80	4.00	4.66	5.28	5.60	5.83	6.22	7.00	8.00	9.33	11.20	14.00	28.00
2.85	4.07	4.75	5.38	5.70	5.93	6.33	7.12	8.14	9.50	11.40	14.25	28.50
2.90	4.14	4.83	5.47	5.80	6.04	6.44	7.25	8.28	9.66	11.60	14.50	29.00
2.95	4.21	4.91	5.57	5.90	6.14	6.55	7.37	8.42	9.83	11.80	14.75	29.50
3.00	4.28	5.00	5.66	6.00	6.25	6.67	7.50	8.57	10.00	12.00	15.00	30.00
3.10	4.43	5.17	5.85	6.20	6.46	6.89	7.75	8.86	10.33	12.40	15.50	31.00
3.20	4.57	5.33	6.04	6.40	6.67	7.11	8.00	9.14	10.67	12.80	16.00	32.00
3.30	4.71	5.50	6.23	6.60	6.87	7.33	8.25	9.43	11.00	13.20	16.50	33.00
3.40	4.86	5.67	6.41	6.80	7.08	7.55	8.50	9.71	11.33	13.60	17.00	34.00
3.50	5.00	5.83	6.60	7.00	7.29	7.78	8.75	10.00	11.67	14.00	17.50	35.00
3.60	5.14	6.00	6.79	7.20	7.50	8.00	9.00	10.28	12.00	14.40	18.00	36.00
3.70	5.28	6.17	6.98	7.40	7.71	8.22	9.25	10.57	12.33	14.80	18.50	37.00
3.80	5.43	6.33	7.17	7.60	7.92	8.44	9.50	10.86	12.67	15.20	19.00	38.00
3.90	5.57	6.50	7.36	7.80	8.12	8.67	9.75	11.14	13.00	15.60	19.50	39.00
4.00	5.71	6.67	7.55	8.00	8.33	8.89	10.00	11.43	13.33	16.00	20.00	40.00

**The yield on purchases of State and Municipal (or other tax exempt) obligations made at par or above par.*

the event of insolvency, the tax bill must be satisfied ahead of all other charges.

The effort here has been merely to show how, under certain conditions, an investor can get 6 per cent or more, with a fair degree of safety, and still reap the benefits of tax exemption.

For those who still prefer the municipal market, there is attached a table, prepared by Bache & Co., 36 Wall Street, New York City, which shows tax exempt yields and equivalent taxable yields.

As an example, note that a tax-exempt income of 4 per cent is equivalent to a 10 per cent taxable income to the individual in the 60 per cent income tax bracket.

The table appears opposite.

NORTHERN PACIFIC RAILWAY

Northern Pacific Railway earlier this year split its stock two for one and then declared a quarterly dividend on the new shares of 45 cents. That maintained the higher dividend of 90 cents quarterly on the old shares, paid in January, which compared with 75 cents previously.

This is a conservative payout, amounting to roughly a third of estimated earnings, and while the yield is low on the basis of the current dividend, it is obvious the board could increase the rate substantially and still be conservative.

In considering these figures it must be realized that they reflect Northern Pacific's activities in the railroad business, and that alone. As time goes on it is a reasonable expectation that more earnings from land operations will come down to net income, thus making it easier for the board to increase payments.

That is because Northern Pacific is one of the land-grant railroads. It owns 2,250,000 acres of land in fee. In addition it has retained mineral rights on 5,100,000 acres and there is still another 1,000,000 acres on which it has retained coal and iron ore rights after having sold surface rights.

That makes 8,300,000 acres of land in which the company has an earnings potential. It is difficult to make an accurate estimate as to what this might mean, but we know that development work, while successful, has not gone far enough to reveal the ultimate possibilities.

In addition to the above the company has nearly 500,000 acres on which there are between 7,000,000 and 8,000,000 board feet of standing timber. A program to exploit this has been started and is expected to develop rapidly. At the moment these Land Department operations probably contribute about 50 cents a share to earnings.

This puts Northern Pacific in the oil and timber businesses, probably the two industries with the greatest romance for the investor. Oil shares have done relatively better than others, and as for timber, this is an age of growing use of paper, while the number of trees is declining. There has been a mad scramble for timberland over the last few years and it shows no sign of diminishing. Any company with standing timber is assured of the growing interest of the big paper companies.

In oil, the company has secured for

many years a small amount of income from various isolated properties. This operation increased in importance in 1951 with the discovery of the Williston Basin where estimates have been made Northern Pacific has rights worth currently $75,000,000 or more than $15 a share.

The timber holdings are not regarded as valuable as the oil holdings, but the trend is up. The company has a perpetual yield of 200,000,000 board feet a year. The market value of its timberlands is probably about $40,000,000, or $8 a share on the present common stock.

The result is that while Northern Pacific is a railroad, it is also in the oil and timber business, with always the possibility it may get into the coal and iron ore businesses. It gives the company a diversification not common to railroads generally.

An investor might say that if he liked the oil business, he would buy an oil stock, and if he wanted to get into pulp and paper, he would buy a paper stock, and if he thought well of the future of transportation, he would buy into a railroad. That is a sound point of view; but Northern Pacific offers an opportunity to get into a railroad that has a lien on the others.

As a railroad it connects the Pacific Northwest, which is one of the most rapidly developing areas, with a large portion of the wheat belt and the more populace eastern centers. Since 1946 the company has spent about $200,000,000 on capital improvements and railroad earnings are starting to reflect this.

It operates 6,850 miles of railroad in Wisconsin, Minnesota, North Dakota, Montana, Idaho, Washington and Oregon. Its main line runs from St. Paul and Minneapolis, Minnesota, Ashland, Wis. and the Lake Superior ports of Duluth, Minn. and Superior, Wis., westward to Seattle and Tacoma, Wash. and Portland, Ore. Jointly with the Great Northern Railway it controls the Chicago, Burlington & Quincy and the Spokane, Portland & Seattle.

Its territory depends largely on agriculture and the development of natural



resources, with the result that bulk commodities form a large portion of its traffic. Higher-revenue and miscellaneous freight provide only 38 per cent of its gross freight revenues, which compares with 59 per cent average for all carriers.

Because of its interest in coal deposits and operating coal mines, and its ownership of a large fleet of relatively modern steam engines, the company has deferred conversion to diesel-electric power. A changeover is now being made and there have been estimates that when substantially completed this could add another 50 cents a share to earnings. The road will keep a part of its steam-powered fleet for peak load operations.

Northern Pacific originally owned 41,650,000 acres of land. This was given to it as an incentive to build a railroad from Lake Superior to Puget Sound. It was granted 200 feet on each side of the tracks and all odd-numbered sections of land for a distance of 40 miles on each side of the line in the territories of Dakota, Montana, Idaho and Washington, and twenty miles on each side of the line in Wisconsin, Minnesota and Oregon.

The company's operations in the Williston Basin have been successful but because of large advances for exploration and development, substantial earnings should not be expected immediately. The Basin promises to be one of the major petroleum areas of the country; eventually Northern Pacific's large expenditures should pay off.

Amerada Petroleum brought in the first producing well in that area and Northern Pacific moved in quickly with a competent staff of petroleum geologists, engineers, attorneys and land men, under the direction of a vice president who was experienced in the business. It has entered into various agreements including straight royalty, royalty plus working interest, acreage pooling agreements and active participating in drilling.

MISSOURI PACIFIC

The Missouri Pacific system of railroads has many things to distinguish it. Financially speaking its career has been kaleidoscopic and as a result its securities have always had a fascination for the Street.

A few of the financial highlights include: it was bankrupt, officially speaking, for a longer period than any other major railroad, nearly 23 years; during a large part of this time it made good profits, even though, legally speaking, it was bankrupt; four reorganization plans were perfected before the contesting groups of security holders could reach an agreement; it emerged from bankruptcy with a larger capitalization and larger charges than it had when it first sought refuge in the Courts, on March 3, 1933.

Pierre R. Bretey, partner of Hayden, Stone & Co., who recently issued a study of the system, says it is the only reorganization effected under section 77 in which capital and charges were increased instead of decreased. One of the reasons for bankruptcy, and reorganization, is to reduce the capital, and pare down



charges, so that the property will be able to show a profit. The purpose is to distribute the losses among the various classes of security holders, arrive at as fair an agreement as possible, get the court's approval and then start the new company operating with a debt small enough to be serviced.

One other peculiarity in the Missouri Pacific setup is that shares of one of its two classes of common stock, the class B, commands a price of several hundred dollars a share, and are virtually unobtainable, even though there are no earnings whatever on this stock. A table in Mr. Bretey's study shows the pro-forma coverage of the new capitalization with earnings computed as if provisions of the plan had been in effect from 1946 through 1955.

The table, which gives effect to capital and sinking funds under the indenture provision, shows a deficit on the class B. common for each year. It was $75.58 a share for 1955. Yet sales of the stock are made around $500 a share and it is understood to have changed hands as high as $800.

It is an interesting situation, but the class B is not recommended as an investment. Over half of the issue of 40,657 shares is owned by the Alleghany Corporation. It gets its high market price because it possesses so much leverage. Mr. Bretey says he knows of no other equity that has as much.

He also says, "It is somewhat unusual for the Interstate Commerce Commission to approve a 'fag end' issue of only 40,657 shares in a capitalization of $821,000,000, with about 50 per cent of this issue concentrated in one ownership."

While in 1955 there were no earnings available for the class B common after Funds, nonetheless earnings before Funds were equivalent to $170.54 per share. He presents a simple arithmetical projection which illustrates the stock's leverage potential.

It shows that whereas in 1955 the company had available for fixed charges $43,265,000, and that this amount made possible net before Funds of $170.54 a share on the class B, should the amount available for fixed charges increase only slightly, to $50,000,000, class B. earnings before Funds would skyrocket to $336.20. At $55,000,000 they would be $459.80 a share and at $60,000,000

they would be $582.16. That's leverage, with a capital "L."

Mr. Bretey does not imply that such projected earnings will be realized soon. Yet he says that, "with economies as projected in our study, surely an estimate of $50,000,000 available for charges appears well within the grasp of the present management over the next several years. However, for an estimate as large as $60,000,000, or $55,000,000, to be realized, certain optimum conditions would appear necessary."

He lists these as:

1) Greater accelerated industrialization than presently envisaged in the railroad's service area;

2) A better political climate in which the railroads would be allowed greater flexibility in adjusting their rates to present day competitive realities and in which the railroads might even be permitted to put in effect "Agreed System" rates; and finally,

3) Railroads were allowed to become fully integrated transportation companies with the right to operate trucks, airplanes and barge lines, without restrictions.

These desirable conditions, he says, will not occur overnight, if at all, within our generation. Should even a portion of these changes become effective, what would appear a much too optimistic forecast at this time might appear, in retrospect, far too conservative.

"It is this possibility of a substantial increase in earnings available for fixed charges—remote though it may appear as of this writing—which prompts the speculator (the owner of this leverage stock cannot by any stretch of the imagination be considered an investor) to pay $500 for this issue. The Burgundians of old, in fabled history, were stout-hearted men. Admittedly the Class B stock is a vehicle only for the stout-hearted speculator of today."

It is the class A common that is outstanding in the hands of the public. Voting control of the Missouri Pacific is vested in this stock, by virtue of representing 97.9 per cent of the voting power of both classes of stock. Dividends on this issue are limited to $5 per share, in any one year, so to this extent the class A possesses some aspects of a preferred issue. However, as the dividends are not cumulative, the stock has more of the attributes of a common equity.

Earnings on the class A, before Funds, have shown a marked improvement over the past decade, Mr. Bretey says. During the last ten years average earnings have amounted to $6.01 per share and over the last five years, $7.18 per share. They were $8.62 per share last year. Moreover, these figures do not take into consideration the undistributed equity the company has in the earnings of the 74.9 per cent-owned Texas & Pacific, nor the 71 per cent-owned American Refrigerator Transit, which combined, have averaged $2.55 per class A share in the past three years.

Earnings before Funds, however, are not too meaningful in attempting to appraise the investment worth of the class A stock. Indenture requirements to comply with Capital and Sinking Funds serve to reduce amount of earnings available for dividend distribution. On a pro-forma basis, earnings on the class A after Funds, totaled 80 cents per share in 1953, $1.52 per share in 1954, and $3.40 per share in 1955.

Mr. Bretey does not regard the stock as an outstanding bargain but says, "the issue does possess speculative possibili-

ties should higher earnings develop by reason of the rapid industrialization of the territory served, of the reduction in maintenance expenditures to more normal levels now that full dieselization has been attained, (which suggests more efficient future operations) and of savings of some $3,000,000 or more annually when burdensome Capital Fund restrictions are removed in 1959."

TIGHT, BUT NOT TOO TIGHT

The head of our largest manufacturer of automobiles a couple of months ago, ascribed to the Federal Reserve's tight money policy of the Spring of this year, a portion of the responsibility for the slack sale of new cars. Back came the retiring head of the Federal Reserve Bank of New York with the observation, that the industry's troubles were largely of its own making and that we are paying in 1956 for previous abuses. He regarded tighter credit as no excuse whatever for the industry's present troubles.

These statements are not the only two available. They are among many, and the difference of opinion as to the proper degree of restriction on credit is apparent within the circle of the President's advisers. Definitely it is in the fields of politics and business. There are statements in the newspapers concerning it almost daily, and there will be more.

Early in June there was evidence of an easing in the situation. The Federal Reserve, in one week, bought $161,000,000 bills outright and extended $35,000,000 additional credit through repurchase agreements with dealers. This added immeasurably to the ability of member banks to extend credit to borrowers. With what has happened in other recent weeks it indicates a change from the condition throughout April and mid-May and supports the belief of many that money should, and likely will be, less tight in late summer and in the fall.

To know the answer one must look at the weekly statements of the Federal Reserve and attempt to note the trend. It is obvious that the Federal Reserve authorities have no intention of interfering with business; they do intend to apply brakes when they think the speed of the economy should be slowed down. Another way of expressing the same thing is that they wish to stem the trend toward inflation.

No one of us wants inflation. It robs the investors in fixed-interest obligations and steals from the man who has money in his pocket, lends on mortgages, has a savings account, holds securities that pay him fixed interest in dollars instead of in loaves of bread or bottles of milk. Inflation is the severest tax of all, exceeding even that the government takes from one on income. It takes from a man's pocket, his mattress or his bank account, or his savings, the value of the money he has carefully saved through denying himself such pleasures as he might have had.

We all rise up and proclaim loudly that inflation is our enemy, yet when there is a squeeze on credit, and individuals find it difficult to borrow to put a new wing on the house, and a corporation is restrained from borrowing $10,000,000 it wants for a new mill, then we abuse the Federal Reserve for

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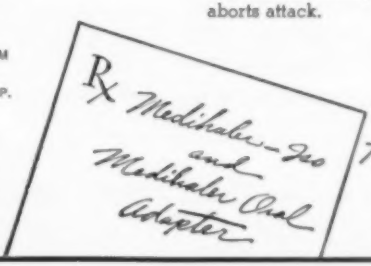


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applying the brakes.

It is safe to say that at no time since it was created in 1915 has the Federal Reserve Board adopted any policy without encountering criticism from one or more sections of the community. When the policy is one of restraint, and money rates are tightened, it is equally obvious that the number of dissenters will increase and their protestations will become louder.

The policy that was followed in the late Spring and early Summer, however, cannot truthfully be described as one of choking off the flow of money. It was more a matter of controlling the expansion of credit.

William McC. Martin, chairman of the Board, made this clear from the beginning when he denied the existence of any "policy of choking off the flow of credit and forcing rates artificially higher.

"There is no such policy, and there is not going to be one of that kind," he said early in May. A similar view was expressed by the First National City Bank in its June letter when it observed:

"It is far from the truth to suggest that credit stringency is choking the normal growth of the economy. . . . The rising pressure" (on interest rates) "has originated out of the abnormal strength of loan demands, not out of Federal Reserve actions arbitrarily to place the credit structure under strain. . . . If the discount rate action effectively pricked a dangerous bubble, it is well that the action was taken before the bubble grew any larger. Inaction would simply have let the hazard grow, inviting people to plunge ahead on the assumption that no one dared stop the spiral. . . . Really serious collapse comes out of indulgence of booms founded on swollen borrowings and forward commitments."

As a background in weighing the political and economic pressures that are put upon the money managers, about which we read almost daily, current talking and thinking can be clarified by keeping in mind the principles of Federal Reserve operations as outlined by Chairman Martin. He sums up the System's responsibilities as follows:

"Growth of the money supply must be regulated to the country's real needs.

"If borrowers crowd banks with loan demands on a scale much greater than average normal growth, they can expect the result to be some rise in interest rates.

"If that rise does occur, it merely signals continuance of the Federal Reserve policy of letting the supply and demand of credit be reflected in market rates of interest.

"It is always the job of the Federal Reserve to see that seasonal needs for credit expansion are met. The Federal Reserve has always done so, and will keep on doing so.

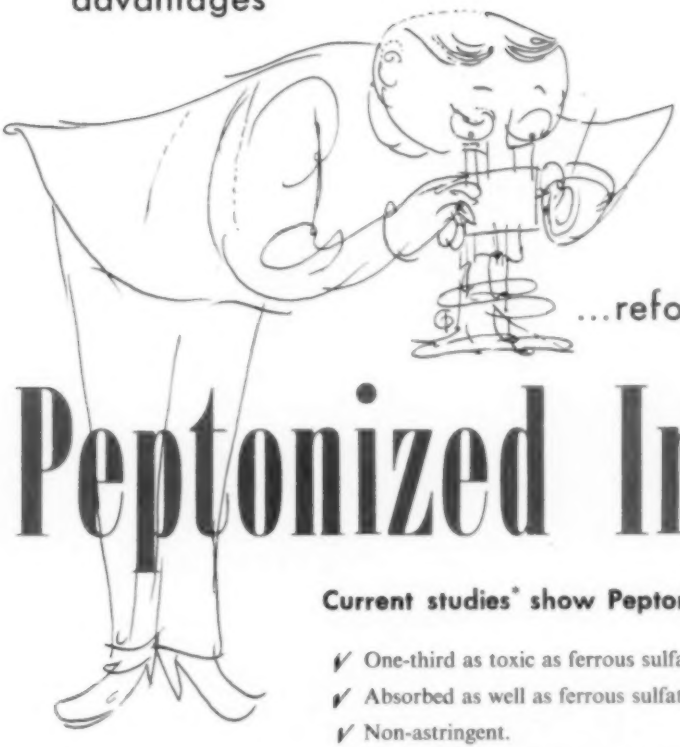
"It is one thing for interest rates to rise under pressures of heavy demand for credit, and another thing for money to become completely unavailable.

"The fundamental requisite is to see that the volume of bank reserves is appropriate to high level stability in the economy and then to let interest rates be determined in the market place where they can rise or fall in response to supply and demand."

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*Keith, J. H.: Utilization and Toxicity of Peptonized Iron and Ferrous Sulfate, Read before the American Association for the Advancement of Science, Zoological Section, Atlanta, Georgia, December, 1955.

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Pantothenic acid	5 mg.
Liver fraction 1	2 Gm.
Rice bran extract	1 Gm.
Inositol	30 mg.
Choline	60 mg.



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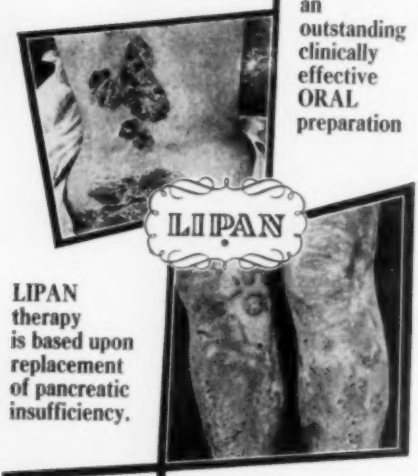
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for diarrhea control
Diarrhea attacks without warning. For the management of susceptible *infectious* forms, STREPTOMAGMA combines potent antibacterial, adsorptive, and protective actions. Soothes the irritated bowel, promotes development of well-formed stools. For routine management of common *noninfectious* diarrhea, prescribe KALPEC®—pectin with kaolin in alumina gel.
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an outstanding clinically effective ORAL preparation

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LIPAN therapy is based upon replacement of pancreatic insufficiency.

A recent Seminar at the New York Academy of Sciences emphasized the general acceptance by distinguished authorities of the hypothesis that psoriasis depends for its development upon a disturbance of fat metabolism.*

Clinical evidence indicates psoriasis may be due to a disturbance of the lipid metabolism, evidently caused by a deficiency of pancreatic enzymes.*

LIPAN Capsules have been shown to be *clinically effective* in 66.7% cases. This is well above the established minimum for all types of psoriatic therapy of 36.2%.

LIPAN – and nothing but LIPAN, as maintenance regimen may keep patients free of lesions.*

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LIPAN Capsules contain: Specially prepared, highly activated, desiccated and defatted *whole* Pancreatic Substance; Thiamin HCl, 1.5 mg.; Vitamin D, 500 I.U.

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LETTERS TO THE EDITOR

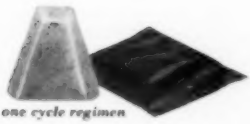
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vestigator will be readily able to discover the formation of an early keloid mass microscopically in the experimental skin area. But if one repeats the above procedure, but this time he uses physiologic saline solution rather than blood or blood serum, no such fibroblastic skin changes will occur.[2]

If the doubter needs further proof as to the nature of keloids, it is suggested that he study seriously the recorded observations of Gathings[3] who used hyaluronidase and Kutapressin to soften keloids. Hyaluronidase possesses the ability to disperse excess tissue fluid (edema) by dissolving the cellular cement in soft tissue. Furthermore, Kutapressin is a most unusual injectable pharmacologic tool. This aqueous substance is prepared from liver by a series of selective fractionations. This preparation vasoconstricts the terminal arterioles and the capillaries. Hence, in edematous tissues, a state of chronic passive congestion has occurred because of vasodilatation of these terminal arterioles and capillaries which routinely accompanies most inflammatory processes. By vasoconstricting the dilated blood supply, Kutapressin does not raise systemic blood pressure.

Since both fibroblastic proliferations and a markedly vasodilated skin area tend to encourage the growth of keloids, the use of a dispersing agent, as with the use of hyaluronidase, plus the use of an arteriolar and capillary vasoconstrictor tends to reduce edema in young keloidal growths. Hence, these benign tumorous growths can be observed to

—Continued on page 106a



one cycle regimen

Vaginal trichomoniasis: lasting cure for 93.8%

Within 72 hours, local irritation no longer troubled this patient. Relief resulted from thorough powder insufflation by her doctor and her use of suppositories at home.

- after clinical study of 48 active cases, Schwartz reported 93.8% were symptom-free in 3 days; 97.9% showed no motile trichomonads on smear in 7 days; 93.8% had no recurrence 1 to 3 months after treatment through one menstrual cycle*
- advantages: contains a specific, trichomonacidal nitrofuran. Kills many secondary invaders but permits Döderlein's bacillus to exist. Effective in blood, pus and vaginal debris
- office treatment: insufflate TRICOFURON Vaginal Powder twice the first week and once a week thereafter
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a *new* class of antimicrobials
neither antibiotics nor sulfonamides

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Suppositories: 0.25% Furoxone® (brand of furazolidone) in a water-miscible base of Carbowax and 20 dendro palmitic acid. Sealed in green foil, box of 12.

Powder: 0.1% Furoxone in an acidic powder base of lactose, dextrose, citric acid and a silicate. Bottle of 30 Gm.

*Schwartz, J.: Obst. Gyn. N. Y. 7:312, 1956.

"MEMORIES ARE MADE OF THIS . . ."

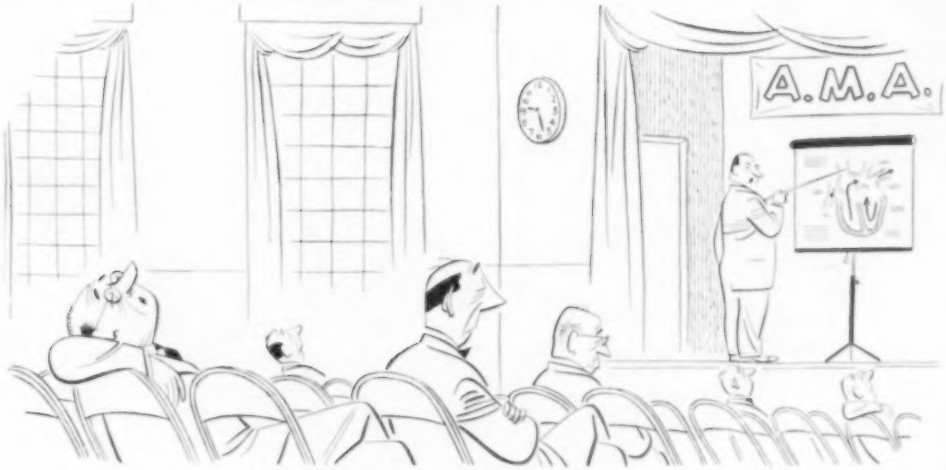




"Just other specialists as usual . . . No referrals here."



"Yes, dear, same old grind. A few more meetings and I'll be home."


A.M.A.


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LETTERS TO THE EDITOR

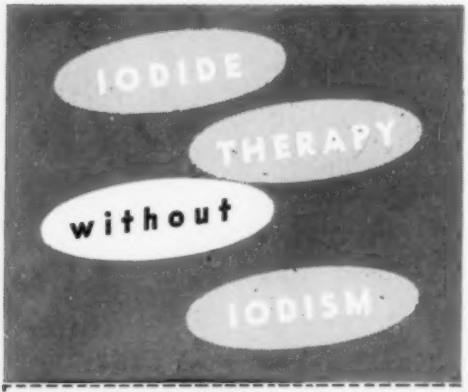
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actually shrink in size. However, if a keloid is old, there have been greater fibromatous changes, and the edematous component is not so marked. Therefore, the shrinking action with the concomitant use of hyaluronidase and Kutapressin will not be too pronounced as is the case with the younger keloids.

It appears to me that the author of the recent article, to whom I referred at the outset of this communication, either has not actually tried the above procedures which have been recorded in the medical literature, or he may have not allowed himself to believe what he read or actually observed. Many competent clinicians and investigators, of whom many happen to be board members, have verified Gathings' and my research in various personal communications. As a matter of fact, several of these observers have recorded their own investigations in published articles in various medical journals. Obviously, a discrepancy in opinion exists in these opinions from colleagues and the information which is contained in this current article on keloids. May I request that this writer follow the above investigative procedures? If such is disdainful for one reason or another, I would like to know why he avoided mentioning these facts in his article.

It is my feeling that very few medical colleagues would relish the idea of having their very own serious research overlooked by any investigator or writer who might not have actually contributed serious research data for the use of his medical colleagues. It is an easy mat-

—Concluded on page 108a



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For parenteral use, when preferred, IODO-NIACIN AMPULS 5cc. are supplied in boxes of 10.

[1] *Am. J. Digest. Dis.* 22:5, 1955.

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Based on an impressive background of achievement attained over a period of four years involving both long-term and short-term therapy in all the major forms of arthritis, BUTAZOLIDIN is recognized as one of the most effective anti-arthritic agents currently available.

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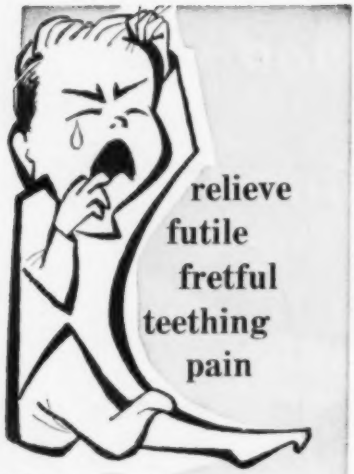
improves function

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Send me trade package NUM-ZIT Teething Lotion for clinical test.

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—Concluded from page 106a

ter to repeat what other authors have published for years. But it is an entirely different matter to obtain a new idea on any medical problem and then spend the necessary time and energy to be able to present such pertinent facts to the medical profession and then be able to face the criticisms which may ensue.

Science attempts to determine the truth through accurate knowledge which is culled from serious and thoughtful research.

This communication is offered as a direct means to that ends.

With kinds personal regards,

Sincerely yours,
Wallace Marshall, M.D.
Two Rivers, Wis.

References

1. Marshall, W.: Pathological relationship of inspissated blood to fibrous tissue formation. Med. Times 74:256, 1946.
2. Ibid: Fibromatous skin lesions produced by repeated blood serum injections in the human. Am. J. Surg. 69:338, 1945.
3. Gathings, J. G.: Treatment of keloids with combination of hyaluronidase and Kutapressin. Am. J. Surg. 88:429, 1954. Also note the editorial in the J.A.M.A. May 8, 1954, on keloids, which mentions the above article by Prof. J. G. Gathings.
4. Marshall, W. and Schadeberg, W.: A study of keloids and related conditions. Wis. M. J. 49:369, 1950.

✓ ✓ ✓

Grateful

For some years I have been the recipient and reader of the wonderful papers in your magazine.

For this I want to thank you heartily and hope I will be able to continue to enjoy it for years to come.

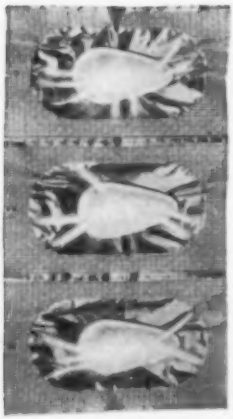
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Avoids pain and inconvenience of injection . . . insures better patient cooperation than any other dosage form.

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Response is more predictable than with oral, or buccal and sublingual therapy.

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Cost is low in terms of greater patient benefits.

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Amiphenazole and Morphine in the Treatment of Intractable Pain

Amiphenazole has been demonstrated to be a harmless compound which counteracts morphine-induced respiratory depression, vomiting, narcosis, and depression of the cough reflex without affecting the analgesia. J. McKeogh and F. H. Shaw, *British Medical Journal* [*1*:142(1956)] report the combined use of morphine and amiphenazole for the intractable pain of terminal carcinoma in 127 patients. Due to possible sensitivity to morphine, large doses are used cautiously. The usual dosage of 22 or 32 mg. of morphine is increased by 16 mg. and 20 to 30 mg. of amiphenazole. These may be given together in the same syringe. Injections are repeated when the pain returns, with the amounts of morphine, not amiphenazole, being increased, in some instances to 195 mg. per injection. These morphine injections are increased until analgesia is complete for six to eight hours; the patient is then said to be stabilized, and the intramuscular injection of amiphenazole is replaced by oral administration. Apparently amiphenazole has a slight stimulant effect, so that the degree of alertness may be regulated by the size of the dosage. During the last days of a terminal illness, it may be advisable to lessen the amount of amiphenazole in order to lessen the patient's insight into

—Continued on page 113a



PENTRITOL Tempules*

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One PENTRITOL Tempule every 12 hours assures 24-hour protection from anginal attack in almost all patients. A 10 mg. release of PETN every four hours maintains continuous coronary vasodilatation, eliminating all dangerous medication gaps. Only PENTRITOL Tempules offer the protection of 24-hour uninterrupted prophylaxis.

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topical ointment

"considered the treatment of choice in secondarily infected dermatoses and those in which secondary infection is known to be a frequent complication."[1]

Supplied: In 1/2-oz. tubes containing 3% oxytetracycline hydrochloride (TERRAMYCIN®) and 1% hydrocortisone (CORTRIL®) in a specially formulated, easily applied base.

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1. Leeder, E. E.: M. Times 83:1259, 1955.

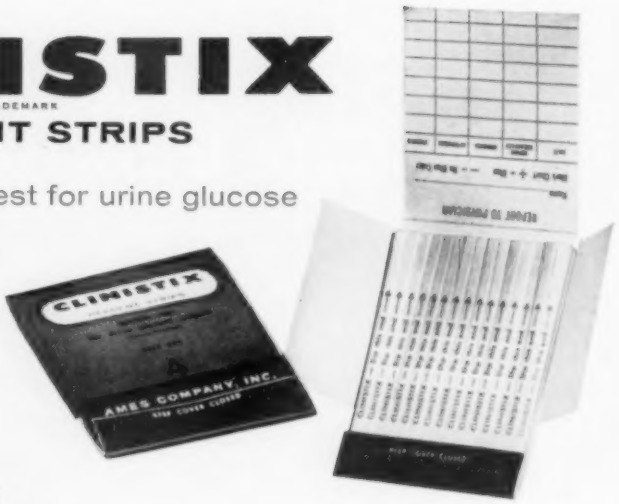
NEW CONCEPT IN URINE-SUGAR TESTING

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extreme sensitivity...detects glucose concentrations of 0.1% or less.

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economy...CLINISTIX saves time and cuts costs...each strip is a complete test rapidly performed without reagents and equipment.

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—Continued from page 110a

his condition. During this time, acute respiratory depression due to increased morphine administration may be countered by injections of 20 mg. of amiphenazole at intervals of ten minutes for a period of two hours. In conclusion, the advantages to be gained from the use of amiphenazole with large doses of morphine are: the ability to control the pain from the beginning; the induction of a bright mental outlook in the patient, and the possibility of using large doses of morphine for at least six months without the development of marked tolerance.

Methergin Used in Obstetrics

Methergin has been routinely used in all deliveries for some time by the authors, Hans J. Moller and Fritz Fuchs, *Danish Medical Bulletin* [3:47(1956)], who now report on some aspects of the method of administration, i.e., the preferable type of injection. Also, their inquiry included the problem of handling the placenta, and whether its expression upon the first uterine contraction after delivery of the baby is preferable to waiting for the classical signs of placental separation. From a total of more than 9000 deliveries, 5360 cases were selected. Notwithstanding the fact of the general efficacy of Methergin, these cases were singled out for the present study since hemorrhage from the uterine cavity during the third and fourth stages of labor only was under consideration. The cases were divided into two categories: those that were essentially normal, and those in which factors were

—Continued on following page

yes, I'd welcome samples of both-

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PLAIN OINTMENT

Indicated primarily for its iodine content — as in enlarged glands, excoriations, minor burns and wounds, and inflammatory skin conditions.

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—Continued from preceding page

present that could well predispose to postpartum hemorrhage such as multiparity, elderly primiparae, obesity, hydramnios, large fetus, multiple fetuses, induced labor, precipitate labor, prolonged labor, inertia, toxemia, previous atonia, and ether anesthesia. Results of the study indicated that the prophylactic use of Methergin significantly reduced the frequency of pathologic postpartum hemorrhage. Intravenous administration combined with immediate expression of the placenta upon the first uterine contraction after delivery of the baby gave the lowest rate of pathologic hemorrhages, but conservative management of the placental stage, and even intramuscular administration of methergin gives almost as good results in normal deliveries. In cases predisposed to postpartum hemorrhage, intravenous injection of Methergin and active management of the placental stage would seem to be indicated.

Doriden

Clinical trials of new therapeutic agents for insomnia cannot be carried out satisfactorily in a hospital, therefore, M. Rushbrooke and his associates, *British Medical Journal* [*1*:139(1956)] instituted a study of Doriden with a group of their private patients who were willing to cooperate. Three groups of

—Continued on page 116a





REDUCE THE PERILS OF OBESITY

Timed AMOdex Capsules
(TESTAGAR)

The daily administration of one (1) TIMED AMO-dex CAPSULE, *without rigidly prescribed diet* will produce satisfactory weight reduction. Feinblatt et al.,* demonstrated these possibilities in patients who had extreme difficulty in adhering to well balanced, low calorie diets. *Clinically Economical.*

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RELEASED OVER 6 TO 8 HOURS

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FORMULA: Each Timed Amo-dex Capsule contains: Dextroamphetamine HCl 15 mg. and Amobarbital . . . . . 60 mg.

REFERENCES: *Feinblatt et al., Medical Times Vol. 34 — 3 March 1956

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DETROIT 26, MICH.

—Continued from page 114a

six patients each were given three envelopes with three tablets in each. All tablets were flavored with quinine sulphate, and all were identical. However, the envelopes contained tablets of Doriden, 0.5 Gm.; a barbiturate, and a placebo: they were coded for the benefit of the investigators. The patients were given forms to be filled out each morning. One patient felt "giddy" after taking the first tablet (a placebo) and refused to continue. Of the others, only one patient was unable to designate a preference between Doriden and the barbiturate. Doriden was given first place by 56 per cent, and the barbiturate, by 33 per cent. The placebo was put in third place by 78 per cent. From the reports, the patients apparently considered relief from the restlessness a major factor in their ranking of the tablets. Drowsiness was noted the next morning by seven patients following the barbiturate, and by four following the Doriden; one patient complained of nausea, otherwise no side-effects were noted. After completion of the trial, Doriden was given as a hypnotic to 30 patients for a period varying from three to 80 days. No definite evidence of habituation or tolerance was obtained. Two patients developed a skin rash which disappeared after discontinuance of the drug. In one patient with congestive heart failure, mental excitement and confusion persisted for about three hours. There were no other side-effects.

Chlorquinaldol Used Topically

Investigations of several oxyquinoline derivatives showed them to have a bacteriostatic activity, and to be effective in the treatment of pyodermas. Comparison studies indicated the superiority of chlorquinaldol which, in the form of an ointment, had anti-mycotic value particularly in mixed infections produced by fungi and bacteria. Further studies of the topical use of this drug were conducted by H. M. Robinson and M. B. Hollander of the University of Maryland *Journal of Investigative Dermatology* [*26*:143(1956)]. Chlorquinaldol was used as a three per cent active ingredient in two ointments, one with a petrolatum-beeswax base for dry lesions, and the other in a greaseless base for moist dermatoses. The group initially comprised 756 patients, but 658 completed the study. In the group with pyogenic disorders made up mostly of impetigo contagiosa, seborrheic dermatitis, epidermophytosis and otitis externa, 266 persons completed the study. Of these, 190 were improved and 42 were partially improved. It was noted that the response was complete in the cases of pyogenic infection: monilial infections did not respond. Among the

—Continued on page 122a

Diagnosis, Please!

ANSWER

(from page 23a)

GOUT

Note replacement of bone by gouty deposits with extraosseous extrusions and associated soft tissue swelling.


XYLOCAINE
HYDROCHLORIDE 1%
with EPINEPHRINE 1:100,000
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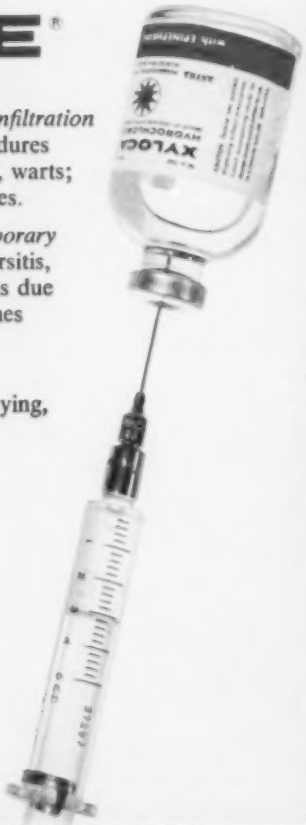
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How effective is Xylocaine? It produces more rapid, complete, and deeper anesthesia than other local anesthetics used in equivalent doses. It gives a wide area of analgesia. Its long duration of action reduces the need for additional injections.

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How does Xylocaine fit into my practice? For *local infiltration anesthesia,* it is used routinely in minor surgical procedures such as closure of lacerations, removal of cysts, moles, warts; treatment of abscesses; and in the reduction of fractures.

For therapeutic interruption of nerve function by temporary nerve blocks, it is used in herpes zoster, subdeltoid bursitis, fibrositis, myalgia of shoulder muscles, and periarthritis due to trauma. The relief of pain in these conditions at times appears to be the most important part of treatment.

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Bibliography of approximately 300 references upon request.

*Southworth, J. L., and Dabbs, C. H.: Xylocaine: a superior agent for conduction anesthesia, Anesth. & Analg. *32*:159 (May-June) 1953.

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for the aged, "sleep and sedation without any medullary depression"[1]

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SHARP & DOHME

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References: 1. West Virginia M. J. 49:292, 1953. 2. Mod. Med. 19:59, 1951. 3. Geriatrics 9:303, 1954.







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MODERN THERAPEUTICS

—Continued from page 116a

cases of non-pyogenic disorders, principally atopic dermatitis, contact dermatitis, lichen simplex chronicus and psoriasis, the most impressive feature was relief of pruritus; it was of value, also, as an adjunctive measure. Of the entire group, hypersensitivity was found in five patients, and 19 patients showed evidence of local irritation.

Neomycin-Nystatin for Preoperative Preparation of the Colon

Numerous investigations have been carried on in order to find an efficient therapeutic agent for preoperative preparation of the colon in addition to the usual mechanical procedures. I. Cohn and A. B. Longacre of New Orleans, *American Surgeon* [22:301(1956)] are of the opinion that in a combination of neomycin and nystatin they have obtained a very satisfactory agent for the purpose. Patients selected for the study were believed to be free of any disease of the gastrointestinal tract. The therapeutic regimen consisted of tablets containing 0.5 Gm. of neomycin sulfate and 125,000 units of nystatin. Two tablets were given every hour for four hours, then two tablets every four hours for 72 hours; making a total of 1 Gm. of neomycin sulfate and 250,000 units of nystatin in each dose. Quantitative bacteriologic analyses were conducted on a control stool, on stools each day of therapy, and on either the second, third, or fourth day following discontinuance of the drugs, thus making it possible to evaluate the reduction of bacterial flora in the feces and the rate of return of the flora to its natural level. Quantitative bacteriologic studies included enterococci, streptococci, staphylococci, coliform organisms, clostridia, bacteroides and yeasts. The effectiveness of these combined agents was noteworthy, after three days the stools were almost free of bacteria. Most important was the difference observed with the yeasts which were successfully suppressed by the combined drugs, but which began to proliferate on the second day with neomycin alone. It would appear that this type of therapy is particularly appropriate for patients who have been treated with antibiotic therapy for prolonged periods, especially if normal bacterial relationships of the colon have been disrupted thus permitting uncontrolled growths of yeasts.

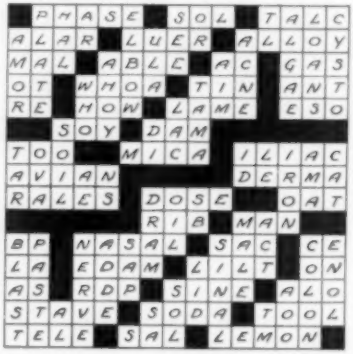
Prednisone in the Treatment of Dermatoses

When a new corticosteroid is introduced, its efficacy for treating skin disorders is investigated. With the appear-

—Continued on page 124a

MEDICAL TEASERS

Solution to puzzle on page 43a



The Advantages of Rauwiloid-Based Combination Therapy

In Difficult-to-Manage HYPERTENSION

Rauwiloid® + Veriloid®

For moderate to severe hypertension. The combination permits long-term therapy with lower doses of Veriloid, greatly lessened side effects, and dependably stable response. Each tablet contains 1 mg. Rauwiloid (alseroxylon) and 3 mg. Veriloid (alkavervir). Initial dose, 1 tablet t.i.d., p.c.

Rauwiloid® + Hexamethonium

For severe, otherwise intractable hypertension, this single-tablet combination provides smoother, less erratic response to oral hexamethonium, thereby stabilizing reduced tension. Permits up to 50% less hexamethonium to exert full effect. Each tablet contains 1 mg. Rauwiloid and 250 mg. hexamethonium chloride dihydrate. Initial dose ½ tablet q.i.d.

Riker LOS ANGELES

—Continued from page 122a

ance of prednisone, C. R. Rein and E. L. Bodian of New York, *Archives of Dermatology* [73:378(1956)] undertook its evaluation in a group of patients, half of whom had been given other corticosteroids for periods as long as two years. However before beginning the tests, no drug was taken for at least two weeks: also, patients were carefully examined. Initially 40 mg. of prednisone were administered daily in three or four divided doses; this could usually be reduced to a maintenance dose of 15 mg. per day. In this small series, impressions rather than percentages were considered. In 33 of the 41 patients, the therapeutic response was dramatic. While the remaining members showed improvement, it was believed that their responses would have been better with larger dosage schedules. The best clinical response was obtained from cases of atopic dermatitis, neurodermatitis, urticaria, and contact dermatitis, while next in order of improvement were dermatitis herpetiformis, seborrheic dermatitis, lupus erythematosus, and exfoliative dermatitis. On the whole, the authors were favorably impressed with the therapeutic efficacy of prednisone, and believe that it has a place in the armamentarium of the dermatologist. Compared with other steroids in use, it is four to five times more potent, and, while the initial response to it is somewhat slower, maintenance is effective after the slight lag. Side-effects were

—Continued on page 128a



END THE TORTURE

of agonizing vulvar itch
in monilial vaginitis!

FAST, WELCOME RELIEF
HIGH RATE OF CURE

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Vaginal Anti-infective Jelly. Contains 0.1% gentian violet in an acid polyethylene glycol base.

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convalescence

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high potency vitamin-mineral formula

Nutritional adequacy helps to shorten disability following surgery, injury, or disease.

MYADEC is a comprehensive vitamin-mineral aid. As a dietary adjunct it helps meet needs of undernourished patients and those susceptible to nutritional deficiencies. Nutritional supplementation with MYADEC provides therapeutic potencies of nine important vitamins, and eleven important mineral and trace elements.

Each MYADEC Capsule provides the benefits of:

vitamins:		*minerals (as inorganic salts):*	
Vitamin B_{12} crystalline	5 mcg.	Iodine	0.15 mg.
Vitamin B_2 (riboflavin)	10 mg.	Manganese	1.0 mg.
Vitamin B_6 (pyridoxine hydrochloride)	2 mg.	Cobalt	0.1 mg.
Vitamin B_1 (mononitrate)	10 mg.	Potassium	5.0 mg.
Nicotinamide (niacinamide)	100 mg.	Molybdenum	0.2 mg.
Vitamin C (ascorbic acid)	150 mg.	Iron	15.0 mg.
Vitamin A	25,000 units	Copper	1.0 mg.
Vitamin D	1,000 units	Zinc	1.5 mg.
Vitamin E	5 I.U.	Magnesium	6.0 mg.
		Calcium	105.0 mg.
		Phosphorus	80.0 mg.

MYADEC Capsules are supplied in bottles of 30, 100, 250, and 1000.

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'CORTISPORIN'® *brand*

OTIC DROPS *Sterile*

to relieve bacterial or allergic otitis

when inflammation is prominent





gives prompt relief of:
inflammation,
edema,
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gram-positive and
gram-negative bacteria

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Pyridium®

(Brand of Phenylazo-diamino-pyridine HCl)

provides gratifying relief in a matter of minutes

Painful symptoms impel the patient with acute or chronic pyelonephritis, cystitis, urethritis or prostatitis to seek your aid. In the interval before antibiotics, sulfonamides or other antibacterial measures can become effective, the nontoxic, compatible, analgesic action of PYRIDIUM brings prompt relief from urgency, frequency, dysuria, nocturia or spasm. At the same time, PYRIDIUM imparts an orange-red color to the urine which reassures the patient. Used alone or in combination with antibacterial agents, PYRIDIUM may be readily adjusted to each patient by individualized dosage of the total therapy.

SUPPLIED: In 0.1 Gm. (1½ gr.) tablets in vials of 12 and bottles of 50, 500, and 1,000.

PYRIDIUM is the registered trade-mark of Nepera Chemical Co., Inc., for its brand of phenylazo-diamino-pyridine HCl. Sharp & Dohme, Division of Merck & Co., Inc., sole distributor in the United States.

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Philadelphia 1, Pa.
Division of MERCK & CO., INC.

—Continued from page 124a

minimal, and tended to disappear with the change from initial to maintenance dosage. There was no evidence of salt retention, hypertension, sodium depletion, peptic ulcers, or glycosuria.

Novobiocin in the Treatment of Bacterial Pneumonia

Novobiocin (Albamycin), a new antibiotic produced by *Streptomyces niveus*, is reported to be active against numerous gram-positive and certain gram-negative microorganisms. B. M. Limson and M. J. Romansky, *Antibiotic Medicine* [*11*:277(1956)] observed the results of its administration to 30 patients, 23 with lobar pneumonia and seven with broncho-pneumonia at the District of Columbia General Hospital. Ages ranged from 16 to 75 years; temperatures on admission were from 99 to 104 degrees F., and more than half of the group presented coexisting conditions. The dosage of novobiocin consisted of 500 mg. given orally at six-hour intervals: the duration of treatment ranged from three to twelve days. There was satisfactory response to therapy in all 30 patients. In 16 patients, the temperature was normal within 48 hours; in ten patients, within 96 hours, and in the other four the time was longer. Clinical improvement was noted in 18 patients within 48 hours, and in the remaining 12 within a week. There was no evidence of adverse reactions to the drug related to the hematologic, cardiovascular, renal or hepatic systems. Two patients developed mild urticaria which disappeared within 48 hours after discontinuance of the drug. From serum concentrations of novobiocin in blood samples obtained at intervals after at least four doses of the antibiotic, the drug appears to be rapidly and well absorbed after oral administration. It has been suggested that the high concentration of novobiocin in the serum might be due to its reabsorption from the intestine, since it is excreted in large quantities in the bile. In concluding, the authors believe novobiocin to be clinically effective and well tolerated.

Diamox as an Oral Diuretic in Pregnancy

Toxemia, a major complication of pregnancy, is recognized as a vascular disease in which both vasoconstriction and retention of salt and water occur. Edema and a gain in weight seem to favor the theory of water and electrolyte imbalance. Subthreshold water retention resulting from sodium retention which occurs late in uncomplicated pregnancy and may be detected prior to the development of toxemia, has been ascribed to the sodium-retaining action of the mineralocorticoids of the adrenal cortex. It has been postulated that vasoconstriction is secondary to uterine ischemia which may be produced by primiparity, twin pregnancies, and polyhydramnios. The treatment of toxemia must be directed toward the amelioration of vasoconstriction and the correction of the abnormal water-electrolyte

—Continued on page 130a

"MEDIQUIZ" ANSWERS

from page 57a

1(D), 2(C), 3(B), 4(C), 5(A), 6(A), 7(B), 8(B), 9(C), 10(D), 11(C), 12(A), 13(B), 14(D), 15(C).



ZIRADRYL®

Benadryl® Hydrochloride with Zirconium

now available in Lotion as well as in Cream form

ZIRADRYL Cream and ZIRADRYL Lotion are compounded to aid in the prevention and treatment of poison ivy and poison oak dermatitis. ZIRADRYL contains Benadryl which controls the allergic process by relieving itching, and also contains zirconium oxide, which neutralizes the plant toxin.

ZIRADRYL Cream is available in 1-ounce tubes.
ZIRADRYL Lotion is available in 6-ounce bottles.

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50048

—Continued from page 129a

balance. Diamox, an effective and innocuous diuretic drug, was administered to 100 pregnant women; the dosage regimen was a 250-mg. tablet daily for five days, an intermission of two days, and then a return to the medication. Very mild side-effects were noted by three patients. In evaluating the response to Diamox, three categories were considered, even though all patients did not have all conditions listed: (1) Good: return to normal blood pressure; loss of weight and of edema, and loss of albuminuria, (2) Average: lowered blood pressure; loss of weight; decrease in edema, and decrease in albuminuria. (3) Poor: little or no change. The patients in each group numbered: (1) 67, (2) 24, and (3) 9. From their observations the authors, J. R. Ashe and his associates, *Obstetrics and Gynecology* [*7*:242(1956)] believe that Diamox is an effective diuretic that will be useful in the management of toxemia, edema, and excessive weight gain due to water retention in pregnancy.

Corticotropin in the Treatment of Pemphigus Vulgaris

Previous reports have recorded the successful control of pemphigus vulgaris with corticotropin (ACTH) and cortisone, but the treatment has been used on a short-term basis. R. B. Stoughton of Chicago, *Journal of the American Medical Association* [*160*:1011(1956)] has administered ACTH to a group of nine patients with pemphigus vulgaris for periods up to four and one-half years. Side-effects were minimal, and included one transient episode of psychosis. Electrolytes, fluid balance, gastrointestinal function, resistance to infection, blood pressure, or the occeous system were not significantly disturbed.

—Continued on page 134a

produced..."normotension in 50 percent and near normotension in an additional 20 percent of 38 patients with mostly severe hypertension..."[1]

Mio-Pressin*

For moderately severe to severe hypertension

Smith, Kline & French Laboratories, Philadelphia

1. Waldron, J.M., et al: Am.J.M.Sc. 230:551 ★T.M. Reg. U.S. Pat. Off.



you'd never know he has a peptic ulcer

he's symptom free...

day after day after day...

week after week after week

cholinolytic

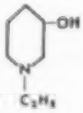
PIPTAL®

- normacid gastric action
- normalizes G.I. tonus and motility
- prolongs remissions, curbs recurrences
- virtually free from "anticholinergic" side effects

One tablet t.i.d. before meals and 1 or 2 tablets at bedtime. PIPTAL is the *only* brand of N-ethyl-3-piperidyl-benzilate methobromide.



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NEW PRODUCT

"THIOSULFIL"®-A

Brand of sulfamethizole with phenylazo-diamino-pyridine HCl

in urinary tract infections

when analgesia is desired

Combines

"Thiosulfil," single sulfonamide specifically for urinary tract infections

and

phenylazo-diamino-pyridine HCl for prompt and penetrating local analgesic effect.

Provides

Potent bacteriostatic action at the site of infection with rapid relief of pain and discomfort.

Each tablet contains 0.25 Gm. of sulfamethylthiadiazole and 50 mg. of phenylazo-diamino-pyridine HCl — No. 784 — bottles of 100 and 1,000.

Suggested dosage: 2 tablets, four times daily.

Also available: "Thiosulfil" Tablets and Suspension, 0.25 Gm. per tablet or per 5 cc.

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Nutritional adequacy helps to shorten disability following surgery, injury, or disease.

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vitamins:		*minerals (as inorganic salts):*	
Vitamin B_{12} crystalline	5 mcg.	Iodine	0.15 mg.
Vitamin B_2 (riboflavin)	10 mg.	Manganese	1.0 mg.
Vitamin B_6 (pyridoxine hydrochloride)	2 mg.	Cobalt	0.1 mg.
Vitamin B_1 (mononitrate)	10 mg.	Potassium	5.0 mg.
Nicotinamide (niacinamide)	100 mg.	Molybdenum	0.2 mg.
Vitamin C (ascorbic acid)	150 mg.	Iron	15.0 mg.
Vitamin A	25,000 units	Copper	1.0 mg.
Vitamin D	1,000 units	Zinc	1.5 mg.
Vitamin E	5 I.U.	Magnesium	6.0 mg.
		Calcium	105.0 mg.
		Phosphorus	80.0 mg.

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—Continued from page 130a

Continuous study was required to determine a minimum maintenance dosage which varied from 15 to 80 units, and was found to average between 26 and 41 units daily. Patients were handled on an outpatient basis; a member of the family or a visiting nurse gave the intramuscular injections. Exacerbations lasting four or five weeks and requiring larger doses of the drug were experienced by all members of the group as were periods of remission during which no corticotropin was required. In all cases, the suppression of blister formation was possible with ACTH, although the basic etiological agent of the disease was not permanently eradicated. Apparently resistance to corticotropin does not develop since blister formation can be prevented with a comparatively constant dosage regimen. Also, the latent degree of severity of the disease appears to remain constant while the patient is under treatment. Seemingly, adequate control of pemphigus vulgaris may be maintained for indefinite periods with ACTH.

Gastrointestinal Disturbances Treated with Chlorpromazine

Chlorpromazine has a versatility rarely found among the therapeutic agents currently in use. Employed originally to control nausea and vomiting, it has since found application in cases of neuropsychiatric disturbances, intractable pain, hiccups, alcoholism, and the management of surgical patients. L. M. Asher of Beverly Hills, *Journal of the American Medical Association* [*160*:1281(1956)] has reported his observations on the effects of chlorpromazine in treating a group of 62 patients with gastrointestinal disturbances which, for one reason or another, presented therapeutic problems; all had been resistant to the various measures that had been applied. In most instances, psychosomatic factors were involved. The average dose of chlorpromazine was 25 mg. three times daily, and the period of treatment ranged from two weeks to six months. The 41 patients in whom response to the drug was favorable were aware of improvement within 24 hours. Of the remaining patients, six had actual drug sensitivity while the others refused to continue treatment. Chlorpromazine seems to be valuable adjunctive treatment when added to the established therapeutic regimen. It is especially valuable when psychomatic factors are dominant, and when stress and anxiety increase the patient's difficulties. However, the possibility that the drug in reducing pain sensitivity is masking a serious development should not be overlooked.

Hypertension Treated with Rauwolfia Preparations

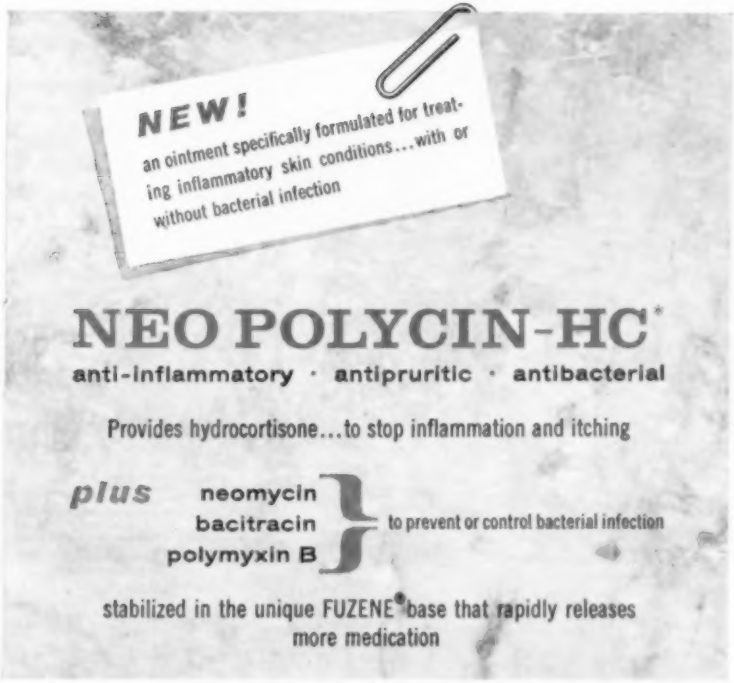
Rauwolfia serpentina and its principal alkaloid, reserpine, have come to be regarded as routine therapy for all but the most severe cases of hypertension. Recently reserpine has become available

—Continued on page 138a

WHAT'S THE DOCTOR'S NAME?

(from page 51a)

The doctor is Leonard Wood.



Two dosage forms

NEO POLYCIN-HC OINTMENT

Each gram contains:

Hydrocortisone acetate	10 mg. (1%)
Neomycin	3 mg.
Bacitracin	400 units
Polymyxin B	8000 units

5 Gm. tubes

NEO POLYCIN-HC OPHTHALMIC OINTMENT

Each gram contains:

Hydrocortisone acetate	10 mg. (1%)
Neomycin	3 mg.
Bacitracin	500 units
Polymyxin B	10,000 units

in an anhydrous lanolin-petrolatum base

⅛ oz. tubes with applicator tip

*Trademark

PITMAN-MOORE COMPANY • *Division of Allied Laboratories, Inc.*
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in urinary infections

TO MEET THE CHALLENGE OF CHRONICITY IN CYSTITIS · PROSTATITIS URINARY CALCULI · UROLOGIC INFECTIONS OF PREGNANCY.....



℞ Mandelamine®

(Brand of methenamine mandelate)

Hafgrams®

0.5 Gm. (7½ gr.)

FOR EFFECTIVE LONG-TERM MANAGEMENT OF CHRONIC URINARY TRACT INFECTIONS

Mandelamine is effective, safe and specific in prophylaxis and treatment, even when used for prolonged periods. It sustains the patient in comfort by acting against both gram-positive and gram-negative organisms.

Supplied: Mandelamine Hafgrams—0.5 Gm. (7½ gr.) each, enteric-coated tablets, the new convenient dosage form for greater patient convenience, better patient cooperation.

Mandelamine 0.25 Gm. (3¾ gr.) each, enteric-coated tablets, for patients who require smaller doses, or prefer taking the smaller tablets.

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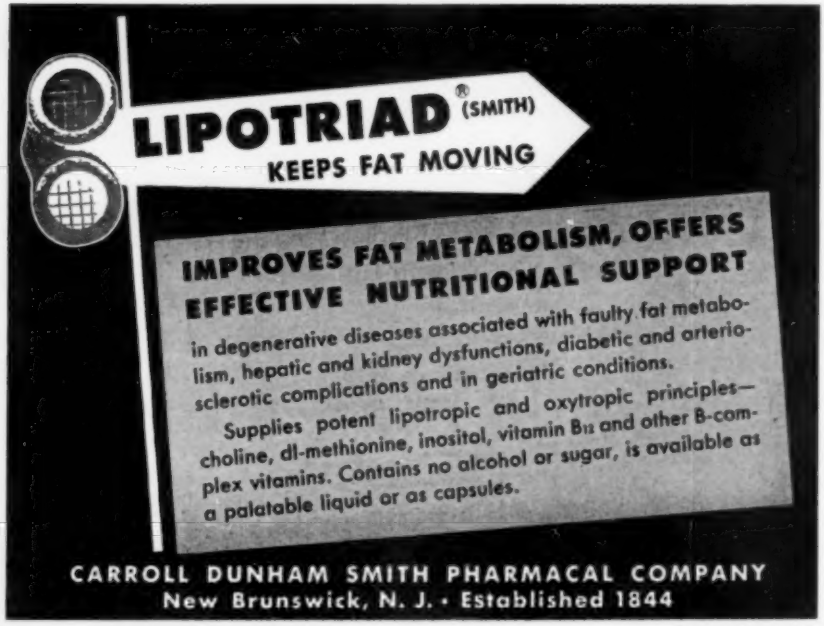
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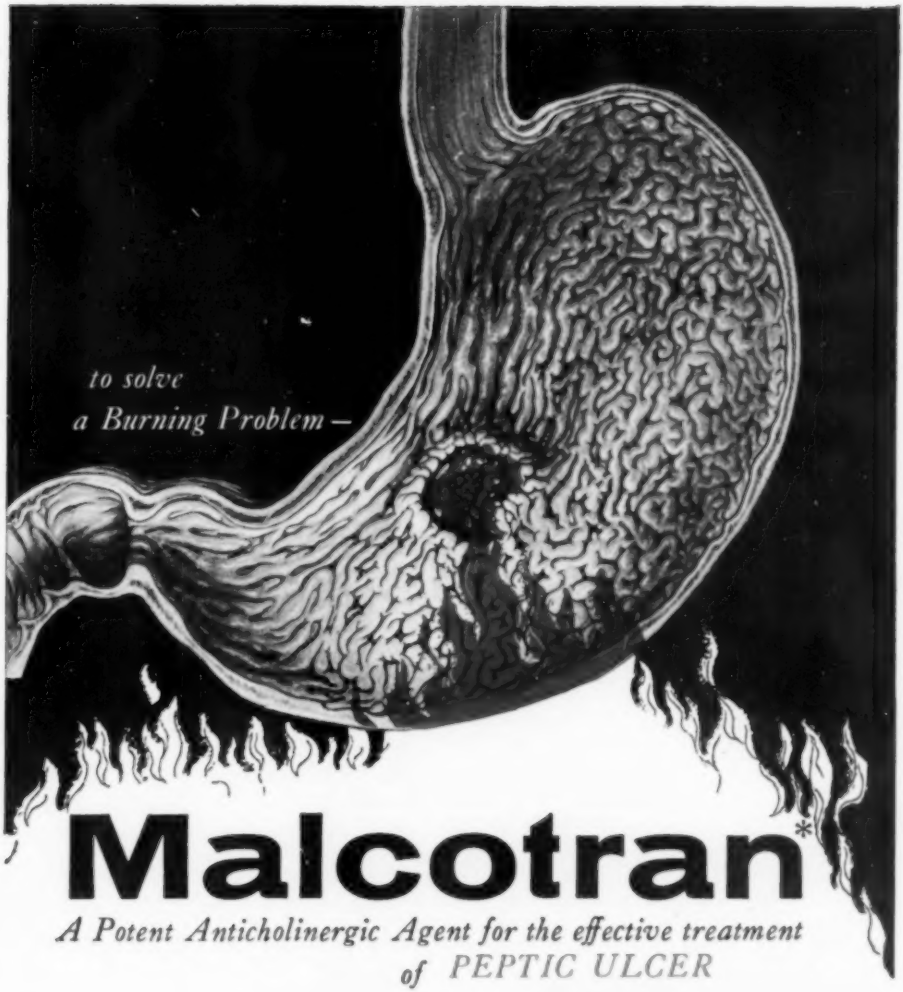
MODERN THERAPEUTICS

—Continued from page 134a

in sustained release capsule form, Eskaserp *Spansule*, in which the drug is distributed among hundreds of tiny pellets with varying disintegration times. Medication is released gradually and continuously over a period of several hours. The author, R. S. Christman of Harrisburg, Pennsylvania, *American Practitioner and Digest of Treatment* [7:614 (1956)] studied the effects of Rauwolfia serpentina and reserpine when administered to 60 private patients suffering from mild to moderately severe hypertension in order to compare available dosage forms. In the first half of the study, tablets of reserpine and of crude Rauwolfia serpentina were used, then the patients were given a placebo for an interval before beginning the second half of the study, which was designed to compare the effectiveness of the sustained release capsules with the previous medication. Satisfactory response to therapy was shown by 76 per cent of the patients taking Rauwolfia, by 80 per cent taking reserpine, and by 85 per cent after the sustained release capsules. While these differences are slight, the sustained release reserpine capsules seem somewhat more effective, and, with their use, annoying side-effects present in about 10 per cent of the first group, were not experienced. While complete accuracy in evaluation of the emotional status of the patients was impossible, a feeling of relaxation and general well-being was evident, especially

—Continued on page 142a





Malcotran*

A Potent Anticholinergic Agent for the effective treatment of PEPTIC ULCER

Widely used to allay excessive parasympathetic stimulation of the biliary, intestinal and genitourinary tracts.

DOSE:
One tablet q. i. d.

AVAILABLE—
Malcotran 10 mg., scored green tablet
Malcotran (10 mg.) with Phenobarbital (8 mg.) scored yellow tablet

Liberal sample and literature on request

NEW DRUG dosage of homatropine methylbromide MALTBIE

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Ethical Pharmaceuticals Since 1888

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IN WOMEN,

the preferred broad spectrum antibiotic preparation is

MYSTECLIN

STECLIN-MYCOSTATIN (SQUIBB TETRACYCLINE-NYSTATIN)

Usual broad spectrum antibiotic therapy may be followed by vaginal moniliasis. Mysteclin supplies well tolerated broad spectrum therapy without subsequent vaginal moniliasis.*

*Stone, M. L., and Mersheimer, W. L.: "Comparison of side effects of tetracycline and tetracycline combined with nystatin." Antibiotics Annual 1955-56, New York, Medical Encyclopedia Inc., 1956, p. 862.

Vaginal moniliasis following antibiotic therapy



Oral antibiotic therapy may cause an overgrowth of monilia in the vagina, producing vaginal moniliasis with vulvar pruritus and vaginal discharge. All women are susceptible, but this complication is especially frequent in women who are pregnant or diabetic. In many cases, the woman fails to inform the physician through embarrassment or failure to relate the condition to preceding antibiotic therapy.

SQUIBB

vaginal moniliasis: an increasingly common complication of antibiotic therapy

"... wide use of penicillin and broad spectrum antibiotics, with resultant disturbance of vaginal bacteriology has increased markedly the incidence of yeast and fungus infections of the vagina. . . . Before advent of the wonder drugs, relationship of trichomonas to monilia was roughly four to one in the usual office practice. Within the past eight years the ratio has been reversed with three monilia problems to one of trichomonas."

Lee, A. F. and Keifer, W. S.: Northwest Med. 53:1227 (Dec.) 1954.

"Vaginal moniliasis ... is quite common and the incidence may well have been increased following the extensive use of the broad-spectrum drugs or prolonged oral use of penicillin."

Welch, H.: Editorial, Antibiotic Med. 2:79 (Feb.) 1956.

MYSTECLIN

the only broad spectrum antibiotic preparation that:

1: provides the antibacterial activity of tetracycline and

2: protects the patient against monilial superinfection

Mysteclin Capsules contain 250 mg. Steclin (Squibb Tetracycline) Hydrochloride, a well tolerated broad spectrum antibiotic, and 250,000 units Mycostatin (Squibb Nystatin), the first well tolerated antibiotic active against fungi. Minimum adult dosage: 1 capsule q.i.d. Supply: Bottles of 16 and 100.
also available: MYSTECLIN Half Strength Capsules (125 mg. Steclin Hydrochloride and 125,000 units Mycostatin): Bottles of 16 and 100.

A PARTIAL LIST OF

INDICATIONS FOR MYSTECLIN

When caused by tetracycline-susceptible organisms, the following conditions are among those which may be expected to respond to Mysteclin:

Abscess	Metritis
Bronchiectasis	Osteomyelitis
Bronchitis	Otitis Media
Bronchopneumonia	Peritonitis
Burns, Infected	Pertussis
Cellulitis	Pharyngitis
Cervicitis	Pneumonia
Chancroid	Psittacosis
Colitis	Pyelonephritis
Cystitis	Q Fever
Diarrheas, Infectious	Rocky Mountain
Dysentery, Amebic	Spotted Fever
Dysentery, Bacillary	Salpingitis
Empyema	Scarlet Fever
Endocarditis, Bacterial	Scrub Typhus
Epididymitis	Sepsis, Puerperal
Furunculosis	Septic Sore Throat
Gastroenteritis	Septicemia
Gonorrhea	Sinusitis
Granuloma Inguinale	Skin Graft Infections
Klebsiella Pneumonia	Surgical Prophylaxis
Laryngitis	Tonsillitis
Lymphadenitis	Tracheobronchitis
Lymphangitis	Tularemia
Lymphogranuloma Venereum	Typhus
	Urethritis
Mastoiditis	Vesiculitis
Meningitis	Wounds, Infected

It is impossible to predict with certainty in which patients clinical moniliasis may develop as a result of broad spectrum antibiotic therapy.

However, the added protection afforded by Mysteclin against monilial superinfection is *especially* important when antibiotic therapy must be prescribed in high dosage or for prolonged periods.

It is also particularly important in women; in debilitated, elderly, or diabetic patients; in infants (particularly prematures); in patients for whom concomitant cortisone or related steroid therapy is prescribed; and in individuals who have developed a monilial complication on previous broad spectrum therapy.

'MYSTECLIN' ®, 'STECLIN' ® AND 'MYCOSTATIN' ® ARE SQUIBB TRADEMARKS

—Continued from page 138a

after taking the Eskaserp *Spansule* capsules.

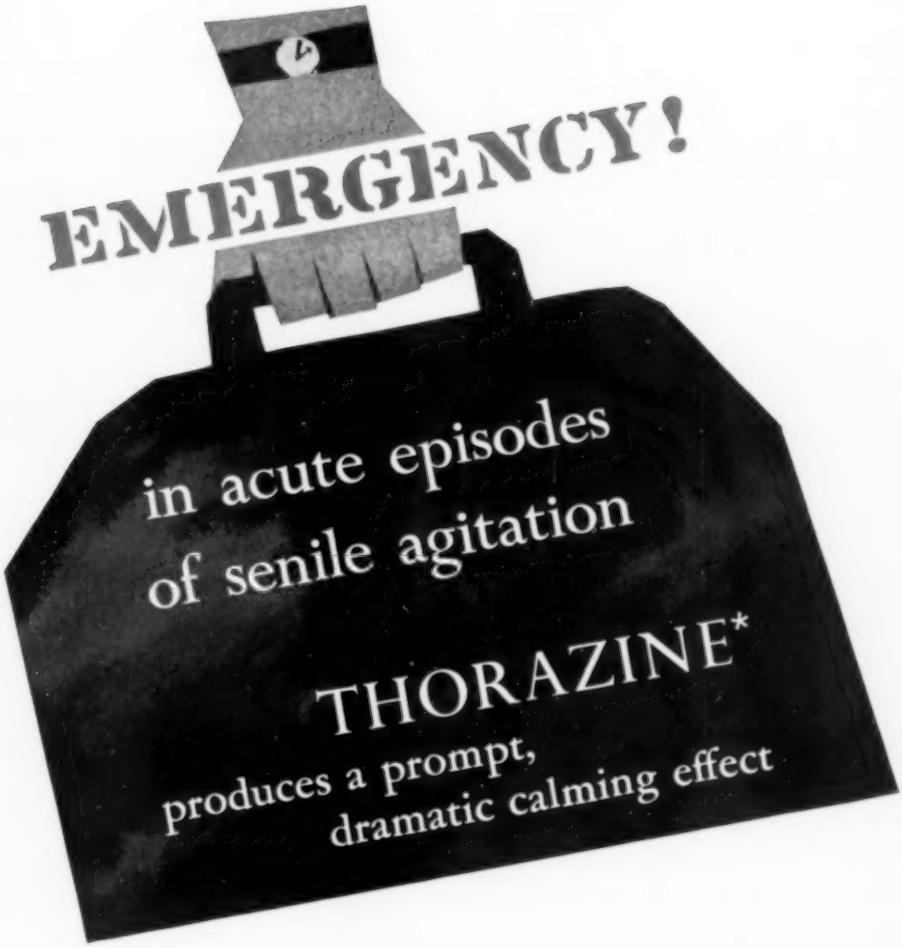
The Treatment of Rheumatoid Arthritis

In most instances, the response of rheumatoid arthritis to treatment with cortisone and ACTH is both rapid and gratifying as shown by lessened pain, improvement in joint motility, a decrease in the size of rheumatic nodules and enlarged lymph glands, and a normal sedimentation rate. However, with the cessation of therapy relapse occurs within a week or two. The usual dosage of cortisone by intramuscular injection is 300 mg. the first day, and 200 mg. daily thereafter until fever and local symptoms have subsided, then a gradual reduction is possible to approximately 50 mg. per day which acts as a maintenance dose. The patient with Addison's disease is maintained on daily oral doses of 12.5 mg. of cortisone. Frequently this therapeutic regimen necessitates discontinuance of the treatment due to the nature of side-effects, one being action on the anterior pituitary that stops the body's own supply of ACTH, thereby preventing stimulation of the adrenal cortex and creating a tendency of both anterior pituitary and the adrenal cortical glands to atrophy. It is for this reason, together with the similarity of action of salicylates and ACTH, that some investigators have become interested in the mechanism of salicylate action, and have found that salicylate stimulates the anterior pituitary. Thus a combination of salicylate and a smaller amount of cortisone has satisfactorily accomplished what neither agent would do alone. This medication is now available in tablet form known as Salcort; each tablet containing 2.5 mg. of cortisone acetate, 0.3 Gm. of sodium salicylate, calcium ascorbate and buffers. After noting reports of several physicians who found results of the use of this combination of drugs to be most gratifying, the author, Edwin A. Busse of Tucson, Arizona, *Clinical Medicine* [*Vol. 2*, November (1955)] administered the tablets to ten of his own patients, and found that all made excellent progress with the Salcort therapy. Side-effects were absent with the exception of one case of gastric irritation and nausea. It appears that this combination of agents reacts much more favorably than either alone. Also, with the salicylate potentiating the action of a greatly reduced amount of cortisone, its beneficial effects are unaccompanied by untoward side-effects.

The Hemostatic Use of Carbazochrome Salicylate

Seepage bleeding or oozing has long been a problem of the surgeon and obstetrician, and methods in use for the control of this type of hemorrhaging were frequently met with indifferent success. Chemical control based on the physiology of blood coagulation has received considerable attention from investigators, and a recent addition to the list is the hemostat, carbazochrome salicylate, apparently specific for conditions characterized by increased capillary permeability. It has neither vasodilator nor vasoconstrictor action, does not affect the large vessels, and does not interfere with the process of coagulation. Its exact mode of action is under

—Continued on page 146a



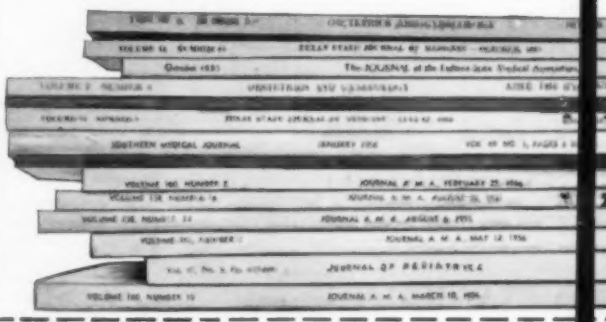
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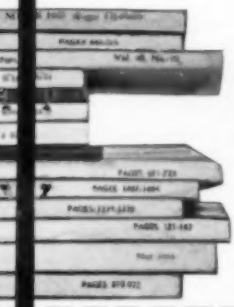
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MODERN THERAPEUTICS

—Continued from page 142a

investigation. However, there is reason to believe that in the temporary inhibition, suppression or absence of adrenochrome, a homeostatic factor in the maintenance of capillary integrity, supplementation by synthetic carbazochrome salicylate will be of the greatest advantage for the control of capillary bleeding. The author, J. C. Bacala, *Western Journal of Surgery, Obstetrics and Gynecology* [*64:* 88 (1956)] reviewed the case histories of more than 1,000 patients at the St. Anthony Hospital, Louisville, Kentucky; 330 patients had received carbazochrome salicylate in connection with surgical or obstetricogynecologic procedures. The results of this therapy were routinely favorable, and were especially dramatic in six cases of cataract extraction where even small amounts of capillary bleeding are an annoying complication. Following the injection of carbazochrome salicylate, bleeding ceased within three minutes. Tonsillectomies are inherently bloody. Of a group of these patients, 282 received carbazochrome salicylate as a secondary or primary measure; the incidence of bleeding was reduced from 19.8 per cent in untreated cases to seven per cent. The occurrence of capillary bleeding may be due to faulty coagulation or to increased capillary permeability brought about by a number of physiologic processes. The supply of the factors for coagulation and the abundance of adrenochrome appear to affect the bleeding tendency. Carbazochrome salicylate apparently causes hemostasis by

—Concluded on page 148a



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Riboflavin (B_2)	5 mg.	Calcium (as $CaHPO_4$)	145 mg.
Niacinamide	15 mg.	Phosphorus (as $CaHPO_4$)	110 mg.
Folic Acid	1 mg.	Boron (as $Na_2B_4O_7.10H_2O$)	0.1 mg.
Pyridoxine HCl (B_6)	0.5 mg.	Copper (as CuO)	1 mg.
Ca Pantothenate	5 mg.	Fluorine (as CaF_2)	0.1 mg.
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—Concluded from page 146a

influencing the capillary intercellular cement substance so that the cells draw closer together, thus effecting constriction of the capillary ends.

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Reserpine (0.5 mg.) or a whole root preparation of *Rauwolfia serpentina* (50 mg.) were given twice a day to a group of 60 elderly patients with hypertension. The results were striking. After six months, the average systolic pressure had dropped from 187 to 101 and diastolic from 148 to 76. The pulse rate had dropped an average of 12 beats a minute. Even more striking results were observed in the mood of the patients. A calmness settled over the patients after but a few days of treatment. Physical deterioration was retarded as well as the advance of mental dissolution. Confusion and disorientation was replaced, in many cases, by practically normal realizations of environment.

Smigel and Murphy, reporting in *J. Am. Geriat. Soc.* [*4:* 260 (1956)], stated that they found side effects to be milder and less frequent than anticipated. Stuffiness of the nose was readily controlled with antihistamines. Occasional headaches occurred.

Neither nausea nor diarrhea developed in any of these cases.

AVOID
RE-INFECTION FROM
HIM IN VAGINAL
TRICHOMONIASIS



KARNAKY reports in treating vaginal trichomoniasis "... approximately 39 to 47 percent of the resistant cases are re-infections from the sexual partner."[1]

Symptom-free carriers. Most infected husbands of infected wives are asymptomatic. They are "... none the less a potential source of re-infection in wives successfully treated."[2]

Protect the wife. Karnaky recommends in recurrent cases of vaginal trichomoniasis that the husband wear a condom at coitus for as long as four to nine months. By the end of this time the trichomonads he harbors will usually die out.[3]

Prescribe high quality condoms. Take advantage of Schmid product improvements to win cooperation of the husband. According to the preferences and problems of your patient, prescribe Schmid condoms by name.

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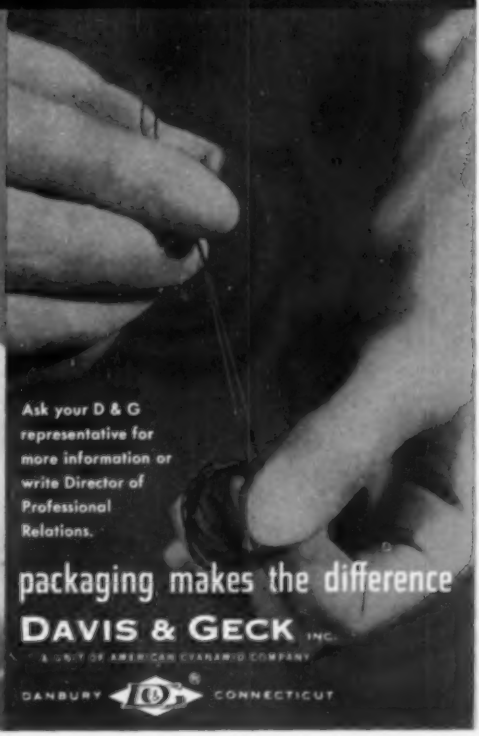
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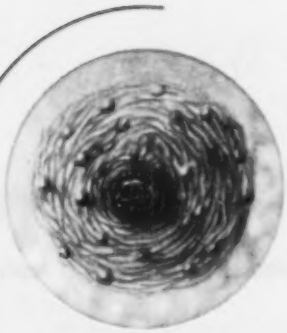
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The use of White's Vitamin A & D Ointment soothes and softens the fissured nipple, promotes tissue regeneration.

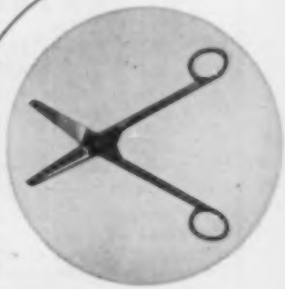
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Specify White's Vitamin A & D Ointment also in such conditions as burns, diaper rash, chafing, indolent ulcers. Recommend the 1½ or 4 oz. tubes, the 1 lb. or 5 lb. jars.

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NEWS AND NOTES

Outline Fast, Inexpensive Cure for Parasites

Two parasitic infections, found in an estimated 19 million Americans, can now be cured within a week because of the simplification of an old treatment method.

Piperazine citrate (Antepar) has been used for several years to treat enterobiasis and ascariasis, but the treatment was extended over periods of seven to 21 days with several doses of the drug given each day.

Now piperazine citrate, given in large daily doses for seven instead of 14 days, has cured 58 of 60 patients with enterobiasis. One large dose cured ascariasis in 34 of 46 patients and two doses cured it in 50 of 53 patients, Harold W. Brown, M.D., Kam-Fai Chan, M.D., and Kathleen L. Hussey, Ph.D., of Columbia University College of Physicians and Surgeons, New York, said in a recent issue of the *Journal of the American Medical Association*.

It is estimated that 16 million persons in the United States are infected with the pinworm Enterobius vermicularis, while more than 200 million persons in the

—Continued on page 154a

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LEGAL MEDICINE
PATHOLOGY AND TOXICOLOGY

By THOMAS A. GONZALES, M.D., MORGAN VANCE, M.D., MILTON HELPERN, M.D., and CHAS. J. UMBERGER, Ph.D.

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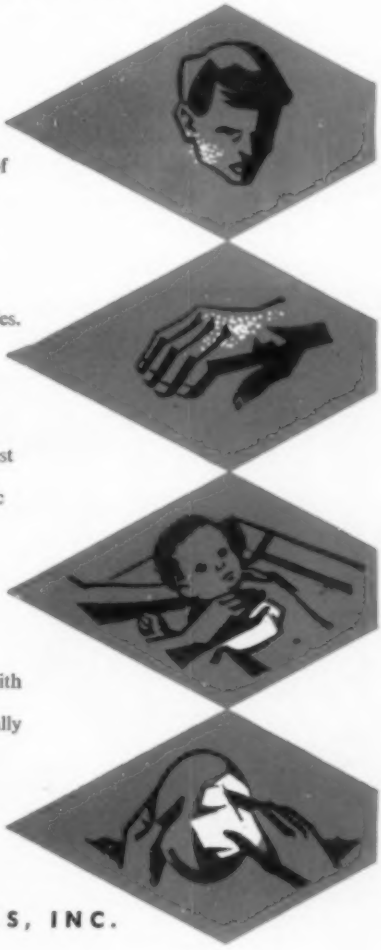
It covers such a wide variety of subjects as investigation at the scene of death; identification; signs of death; the technic of autopsy; unexpected and sudden natural death; types and complications of trauma; blunt force injuries; stab wounds; bullet wounds; traumatic and gas asphyxia; thermic trauma; pregnancy; illegitimacy; abortion; infanticide; virginity; impotence; examinations of semen, blood, hair and other material; clinical examination for organic, inorganic and miscellaneous poisons; rights and obligations of physicians; malpractice; insanity; insurance and survivorship; and a technical section of analytic methods for determining the presence of and identification of various poisons.

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Supplied: 8 fluid ounce and 1 gallon bottles.

Dermolate®

"Milder than the mildest castile," a nonirritating detergent in cake form, is an ideal cleanser where even the mildest soap is poorly tolerated. It is ideally suited for routine use as a hypoallergenic skin cleanser; especially recommended for normal skin care of infants and young children.

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a household cleanser designed for use with Acidolate and Dermolate, is neither irritating nor sensitizing—it is an unusually effective cleanser for all household purposes.

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KENILWORTH, N. J.

—Continued from page 152a

world harbor it. Unlike many intestinal parasites, it is not limited to the rural and poor classes, but is found in all urban economic groups.

Until recently the "drugs of choice" for treating enterobiasis were gentian violet and oxytetracycline, but many persons cannot tolerate gentian violet and oxytetracycline is expensive.

Previously piperazine was given for seven days, discontinued during a seven-day rest, then given for seven more days. The rest period allowed immature worms —not affected by piperazine—to grow into the mature, susceptible stage. However, it was found that eggs remained in the body during the rest period, making possible self-infection as well as spread of infection to the patient's family.

The seven-day treatment, in which one massive dose is given daily before breakfast, prevents such infection and reduces the expense by lowering the amount of piperazine needed, they said. The one massive dose increases the drug's effect on the worms by raising the concentration in the intestinal tract. In a schedule of several small doses given with meals, some of the drug's effectiveness apparently is lost because more of it is absorbed from the tract.

With ascariasis, two large doses of piperazine have been found to be just as effective as several small doses spread



Effective analgesic, antipruritic action in Otic Conditions

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Supplied in 15 cc. dropper bottles

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over five days, the authors said. They tried giving one massive dose of piperazine in an attempt to increase the efficiency of treatment and to reduce cost. It was effective in 74 per cent of the 46 cases. Two large doses in two days were effective in 94 per cent of the 53 cases.

The two-day course of therapy has a special advantage in clinic practice and mass-treatment programs, they said. The first day's treatment can be administered by the physician and an additional safe amount can be given to the patients to be taken at home the next day.

Of the estimated 600 million persons in the world with Ascaris lumbricoides, three million live in the mountainous and hilly areas of the southern U. S.

The ascarides usually are eliminated by the patient on the first, second, or third day of treatment. The ascarides are immobile and relaxed, although not dead. Apparently the piperazine produces a state of drugged relaxation in the worms which prevents them from pressing against the intestinal wall and maintaining their position.

Side-effects from piperazine in the form of hives, nausea or diarrhea were seen rarely and cleared after treatment was completed. Several other salts of piperazine, including piperazine phosphate, calcium dipiperazine dicitrate and piperazine adipate, have also been

—Continued on following page

Broad Antibacterial, Antifungal Activity in External and Chronic Middle Ear Infections

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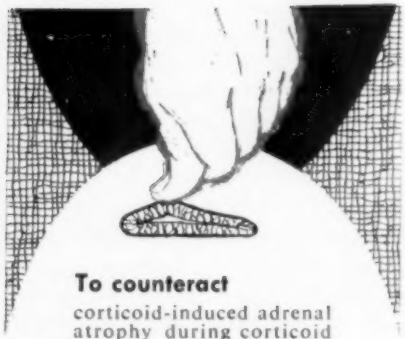


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...effectively controls gram-positive, gram-negative and mycotic invaders
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Each cc. contains:
Neomycin Sulfate (equivalent to neomycin base).....3.5 mg.
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...in an autogenously sterile hydroalcoholic glycerin vehicle.

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To counteract

corticoid-induced adrenal atrophy during corticoid therapy, *routine support* of the *adrenals with ACTH is recommended.*

THIS IS THE PROTECTIVE DOSAGE RECOMMENDATION FOR COMBINED CORTICOID-ACTH THERAPY

- When using *prednisone* or *prednisolone:* for every 100 mg. given, inject approximately 100 to 120 units of HP* ACTHAR *Gel.*
- When using *hydrocortisone:* for every 200 to 300 mg. given, inject approximately 100 units of HP* ACTHAR *Gel.*
- When using *cortisone:* for every 400 mg. given, inject approximately 100 units of HP*ACTHAR *Gel.*

Discontinue administration of corticoids on the day of the HP*ACTHAR *Gel* injection.

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*Highly Purified

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THE ARMOUR LABORATORIES
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NEWS AND NOTES

—Continued from preceding page

found to be effective against the pinworm.

Resuscitate Patient Who Dies Outside Operating Room

Bringing the dead to life even outside the operating room is no longer impossible, Drs. Claude S. Beck, Elden C. Weckesser, and Frank M. Barry, Cleveland, said recently.

Restoration of heart beat after sudden death has been achieved frequently during surgery, and the emergency measures used are almost routine in the operating room. However, the physicians reported one of the first known cases of resuscitation of a patient who died out-

—Continued on page 158a

What's Your Verdict?

—Concluded from page 33a

The Appellate Court reversed the order appealed from, and annulled the determination of the Board of Governors:

"In one sense there is no constitutional right to practice medicine in a public hospital. Valuable privileges, however, are also entitled to the protection of law, and a qualified physician admitted to practice in a public hospital acquires a species of tenure and cannot be capriciously excluded and thereby injured financially and professionally, all without notice and an opportunity to be heard."

Based on decision of
Appellate Division of
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IRWIN, NEISLER & COMPANY • Decatur, Illinois

—Continued from page 156a

side the operating room.

"The death factor in coronary artery disease is often small and reversible. . . . The heart wants to beat and often it needs only a second chance," they said in a recent issue of the *Journal of the American Medical Association.*

However, the second chance must be given immediately—almost within seconds—by persons trained in emergency resuscitation. "It is not impossible" that some day properly trained and equipped teams may extend the use of emergency treatment outside the hospital, they said.

Their patient, a 65-year-old physician, had suffered heart distress, and early symptoms of a myocardial infarction were shown by electrocardiogram taken just before he collapsed on June 22, 1955. He was immediately rushed to the operating room, where it was found that the heart had definitely stopped. "The man was dead," the authors reported.

Within two minutes artificial respiration and oxygen administration were begun, followed by hand massage of the heart, and electric shock.

Exactly one-half hour after he collapsed, his heart started beating by itself. Six days later he was cheerful, well-oriented and normal and five days later he was discharged from the hospital. He has now returned to practice.

Throughout the half-hour, oxygen circulation in the brain was maintained by

—Continued on page 160a

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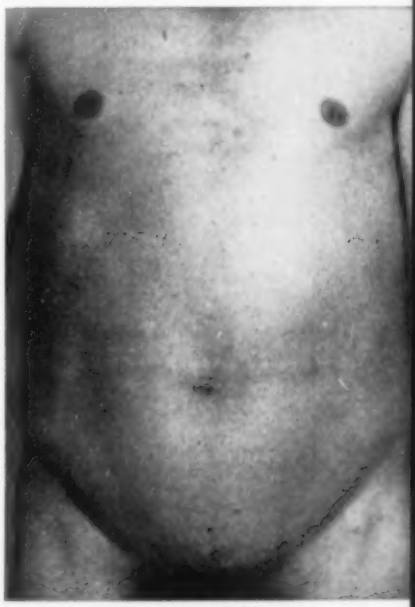
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1. *Minnesota Med. 22:381, 1939.*
2. *Brit. M. J. 2:1328, 1954.*



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"The appreciation and correlation of the roentgen manifestations permit a crystallization of ideas which help to reflect the underlying basic pathological mechanisms in their various static and dynamic sequences. This often permits a pathologic translation, thereby harmonizing the diagnosis with the actual disease."—*The Review of Gastroenterology*

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NEWS AND NOTES

—Continued from page 158a

artificial methods, to prevent the cell damage which results if the brain is deprived of oxygen for longer than four minutes. The only adverse effect experienced by the patient was that he had no memory of the 36 hours immediately following the attack.

A number of electrical shocks were administered to the heart, in order to stabilize the electrical charges within its various areas.

The doctors explained that coronary artery disease kills in two ways. Ninety per cent of the deaths are due to electrical instability, while the rest are due to muscle failure in hearts that remain electrically stable. Both electrical instability and muscle damage are related to oxygen content in the muscles. Differences in oxygen content of adjoining areas of muscle produce currents that kill.

In one-third of the cases, electrical instability kills without muscle damage, and in the remainder the muscle destruction is not so great but that the heart could keep beating, they said.

By equalizing the oxygen content and producing electrical stability through resuscitation methods, many persons whose attacks are caused by electrical instability could perhaps be saved, they said, again pointing out that trained personnel and the proper equipment must be immediately available.

They also mentioned two other cases of resuscitation following death outside the operating room. One occurred in Chicago, with Dr. C. David Brown, Chicago, successfully resuscitating the pa-

—Continued on page 163a

New

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Lockwood, James H., Cmdr., MC, USN, U.S. Naval Hospital, San Diego, Cal. Bulletin of the Association of Military Dermatologists, June 1955, p. 2

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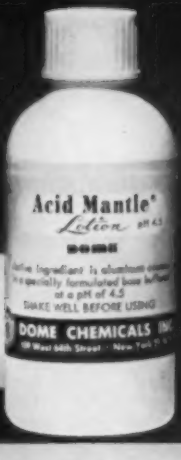


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Give your patient that extra lift with "Beminal" 817

—Continued from page 160a

tient, while Drs. L. B. Regan, K. R. Young and J. W. Nicholson of Mt. Holly, N. J., reported a second case (in the March, 1956, issue of *Surgery*). Their patient developed electrical instability of the heart while a cardiogram was being taken in the emergency ward, on April 13, 1953.

The authors are from the department of surgery of Western Reserve University and University Hospitals, Cleveland.

Children Under Five Respond Well To Polio Vaccine

Polio vaccine appears to work as well in infants and preschool children as it does in school children, providing they receive at least two and preferably three inoculations, a recent Michigan study has shown.

Field trials of the Salk polio vaccine were carried out in 1954 among first, second and third grade children. Although the age range was extended greatly in 1955, little information has been obtained about responses in different age groups.

Since most immunization programs are begun in the early months of life, information about the response of infants to the polio vaccine is important, Gordon C. Brown, Sc.D., and Donald C. Smith, M.D., Ann Arbor, Mich., said.

They found that three inoculations evoked a satisfactory response in infants and in children one to five years old. Two inoculations appeared to be less effective and one injection in infants was definitely inadequate, they said in a recent issue of the *Journal of the Ameri-*

—Continued on following page



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—Continued from preceding page

can Medical Association.

A booster inoculation six months after the first series raised the number of antibodies in the children's blood regardless of how many initial inoculations they had, or how they responded to the first shots. Even those who did not respond to the original vaccination did develop antibodies after the booster shot.

The researchers studied the responses of 135 infants and 116 preschool children. They were divided into five groups; each group received vaccines, made by different companies, on different dosage schedules.

The response to the vaccine was checked by means of a virus neutralization test, which measured the ability of antibodies in the patient's blood serum —when mixed with virus—to prevent infection of a tissue culture by the virus. Three types of virus were used in the test.

In two groups receiving three injections of different vaccine at monthly intervals, the majority of infants, including those under six months, responded with increased antibodies to all three types of vaccine. In another group that received two injections, the response was not as good as in those receiving three inoculations. A group of infants receiving only one injection did not respond at all.

A fifth group responded well to the booster shot despite the ineffectiveness of their original shots, which consisted of weakened vaccine.

The researchers concluded that infants and preschool children respond well to

—Continued on page 166a



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1. Sobel, A. E., et al.: Am. J. Dis. Child. 80:432, 1950. 2. Davidson, D. M., and Sobel, A. E.: J. Invest. Dermat. 12:221, 1949. 3. Gribetz, D., and Kanof, A.: Pediatrics 7:632, 1951. 4. Sobel, A. E., et al.: J. Nutrition 35:225, 1948

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—Continued from page 164a

poliomyelitis vaccination and that the vaccine should be effective in these age groups.

Also investigated was the transmission of antibodies from mothers to their newborn infants. Preliminary observations suggested that even when the mother has a high antibody level, the amount found in the infant is low for three to four months and it can rarely be detected by the age of five to six months. This portion of the study will be completed soon, they said.

Dr. Brown is from the department of epidemiology of the University of Michigan School of Public Health and Dr. Smith is from the department of pediatrics and communicable diseases of the University of Michigan Medical School. The study was aided by a grant from the National Foundation for Infantile Paralysis.

Arterial Surgery Relieves Adolescent Hypertension

Hypertension in a 15-year-old boy has been relieved by an unusual type of arterial surgery, four Cleveland physicians reported recently.

Diseased sections of the two arteries leading into the kidneys were replaced by arterial grafts from other persons. This is believed to be the first case in which both arteries were repaired by grafting, the doctors said in a recent issue of the *Journal of the American Medical Association.*

The boy's high blood pressure was caused by the diseased condition of the renal arteries. The walls of the arteries

—Continued on page 168a

Advances in Arthritic Therapy

In recent months attention has been directed to the advisability of reconsidering therapies used in the management of arthritis. Following the introduction of the corticosteroids, an enthusiasm for these potent agents developed which encouraged their routine use.

Since the use of these potent substances may produce many undesirable side effects, an effort has been made to utilize smaller doses in combination with other drugs which would provide maximum comfort for the patient with a minimum of side effects.

It has been found that the addition of para-aminobenzoic acid (PABA) to salicylate will increase the antirheumatic benefits of salicylate therapy, while reducing the side effects. This potentiating effect of PABA extends to the steroids as well, and will increase the anti-inflammatory action of a corticosteroid two- or threefold.[1] There is an additional synergism, one that exists between salicylate and steroids. Salicylates stimulate the production of adrenal hormone through the pituitary-adrenal axis[2]—an action which effects greater therapeutic benefits with reduced steroid dosage and reduced side effects associated with larger doses.[3]

ACTYLATE *plus* E is an antirheumatic preparation which applies the above medical rationale. ACTYLATE *plus* E offers triple salicylates (sodium-free) activated by PABA and ascorbic acid, plus cortisone. ACTYLATE *plus* E is suggested for use in rheumatoid arthritis and related conditions, such as fibrositis, bursitis, low-back pain, etc., which do not respond favorably to salicylate therapy alone.

The average initial daily dosage schedule is 6 to 8 tablets in divided doses, immediately before meals or with food. Reduce as symptoms subside until optimum maintenance dosage is reached — often as low as 1 tablet four times daily. Since cortisone is a potent drug, the patient should be watched for adverse hormonal reactions regardless of dosage. Like other adrenal hormone preparations, ACTYLATE *plus* E is contraindicated in active tuberculosis, peptic ulcer, and psychosis. Supplied in bottles of 50 tablets.

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1. Wiesel, L. L., and Barritt, A. S.: Am. J. M. Sc. 227:74, 1954.
2. Van Cauwenberge, H., and Heusghem, C.: Lancet 1:771, 1951.
3. Spies, T. D., et al.: J.A.M.A. 159:645, 1955.

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Advertisement

—Continued from page 166a

had become thickened, obstructing the passage of blood.

The operation was performed in two parts, at two-week intervals, with one artery repaired each time. The boy's condition began to improve immediately and his blood pressure is now normal, Drs. Eugene F. Poustasse, Alfred W. Humphries, Lawrence J. McCormack and Arthur C. Corcoran said.

The origin of the kidney artery obstruction "must remain speculative," they said, adding that it may represent a youthful form of arteriosclerosis, although no other vessels were affected. The condition may be a basic flaw in the development of the arteries, or it may be a hitherto unrecognized type of hypertension in adolescence.

Two similar cases, which were fatal, led to recognition of the condition in the third patient and demonstrated the need for surgical correction of the renal arterial defect. The surgery was attempted and was successful.

The authors are from the Cleveland Clinic Foundation and the Frank E. Bunts Educational Institute.

Increase in Scurvy Caused By Baby Feeding Changes

The abandonment of "pot liquor" and "milk from the family cow" as traditional baby foods—and neglect of daily orange juice—are blamed today for an increase in scurvy among infants in Tennessee.

Dr. Calvin Woodruff said in a recent issue of the *Journal of the American Medical Association* that the number of cases seen at Vanderbilt University Hospital, Nashville, had jumped from eight in 1926-34 to 45 in 1950-54. From 1926 to 1954 there was a total of 103 cases.

Scurvy, caused by a deficiency of ascorbic acid, occurs most frequently between the ages of seven and 11 months. It can produce bone deformities, and its symptoms sometimes are like those of poliomyelitis.

Ascorbic acid can be obtained from several sources, including orange juice (probably the best source), fresh unpasteurized milk, tomato juice, and even "pot liquor," the water in which green vegetables and fat meat have been boiled.

The abandonment of these old feeding customs and the sterilization of milk —without substituting anything for these sources of ascorbic acid—have resulted in the increase of scurvy.

He pointed out, however, that pasteurization of milk is desirable despite the resulting loss of ascorbic acid. Addition of ascorbic acid to baby formulas is a good practice, but the philosophy behind this should not be carried to the point where all nutrients needed by the infant are added to the milk formula.

"The most important attribute of a normal complete diet for children is a variety of food," he said, "and it is the responsibility of parents to help infants develop wide taste acceptance as early in life as possible. The importance of an antiscorbutic in the diet is a first lesson. Consequently it is unfortunate to have the point of this lesson lost in the maze of fortified formulas and multivitamin preparations with which we are confronted every day."

While children who cannot—or refuse to—drink orange juice should be given a substitute, for other children orange

—Concluded on page 174a

"O God! O God!

How weary, stale, flat, and unprofitable

Seem to me all the uses of this world."

Hamlet



FOR THE APATHETIC AND DEPRESSED



FOR THE CHRONICALLY FATIGUED OR OVERSEDATED



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1. Manheim, S. D., et al: "Further Observations on Anorectal Complications Following Aureomycin, Terramycin and Chloromycetin Therapy." N. Y. State Jrnl. Med., 54:37-1, Jan., 1954.
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3. Grossman, L., St. Francis Hospital, Miami Beach, Fla., to be published.
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7. Ibid: Jrnl. Ped., 34:49, Jan., 1949.



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*N. Y. State J. Med. 55:1465 (May 15) 1955

Dosage: adults, one 50 mg. tablet q.i.d.; children, ½ tablet (25 mg.) two or three times daily.

Supplied: Bottles containing 100 scored tablets.

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Bristol
BASIC RESEARCH
IN CHEMOTHERAPY AND ANTIBIOTICS

—Concluded from page 168a

juice or some other natural ascorbic acid source is best, he said.

Supplementation by orange or other citrus fruit juice or a vitamin preparation is "mandatory," he said, but in many cases has been neglected because this was not recognized, because of lack of adequate medical care or failure to follow medical instructions, and for economic reasons or through ignorance, carelessness, or neglect. . . ."

The seasonal factors of price and availability of fresh fruit played no role in the cases seen by Dr. Woodruff.

Symptoms of scurvy, which is sometimes confused with rickets, are varied, but irritability, tenderness of the legs and failure to move or use them are most characteristic, he said. Bleeding of the gums, a high temperature, bone changes, discoloration of eyelids and hemorrhaging skin lesions also appear.

The occurrence of scurvy in infants under five months is rare, since the infant is well-supplied with ascorbic acid at birth. The virtual absence of scurvy in infants over two years is attributable to their more varied diet. Among adults scurvy has usually been associated with periods of prolonged dietary restriction caused by long sea voyages, crop failures or wars.

Treatment consists of giving the child a small amount of ascorbic acid, usually in the form of orange juice. The response is dramatic, he said, and the infant is usually symptom-free within three or four days.

Dr. Woodruff prepared his report at the request of A. M. A.'s council on foods and nutrition.

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You can give them a lift with Plimasin, a combination of a proved antihistamine and Ritalin—a new, mild psychomotor stimulant. Plimasin, while effectively relieving the symptoms of allergy, counteracts depression as well.

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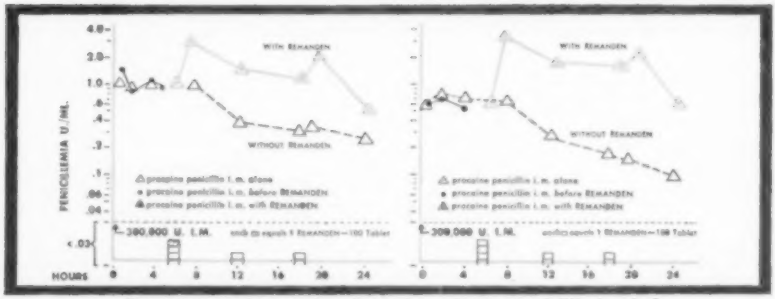
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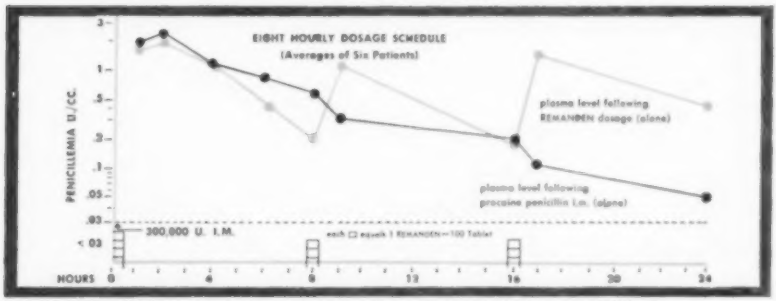
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